AEMC

RULE

Australian Energy Market Commission

## DRAFT RULE DETERMINATION

# NATIONAL ELECTRICITY AMENDMENT (CHANGES TO INTERVENTION MECHANISMS) RULE 2020

**PROPONENT**
AEMO

18 JUNE 2020

## INQUIRIES

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

E aemc@aemc.gov.au
T (02) 8296 7800
F (02) 8296 7899

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## 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 The Australian Energy Market Commission (Commission) has made a draft rule that amends the National Electricity Rules (NER) to improve the efficiency and clarity of intervention mechanisms. The draft rule removes the mandatory restrictions framework and the obligation to counteract during an intervention and clarifies the basis for affected participant compensation cost recovery following activation of emergency reserves under the reliability and emergency reserve trader (RERT).

## Background

2 The composition of Australia's generation fleet is changing rapidly. As the share of non-synchronous generators grows, synchronous generators are operating for fewer hours of the day and some have retired from the market. Demand patterns are also changing. The penetration of distributed energy resources is increasing, resulting in lower demand from the grid, particularly in the middle of the day. At the same time, higher temperatures during the summer months are pushing up peak demand, while more extreme weather events are posing risks to energy infrastructure.

3 These factors have created challenges for the Australian Energy Market Operator (AEMO) in maintaining system security (including system strength). Low levels of system strength can jeopardise the ability of generators to operate correctly, thus threatening system security. As a result of these challenges, AEMO is using intervention mechanisms more frequently to maintain the system in a secure operating state, and sometimes to maintain reliability when demand outstrips supply. These mechanisms are available to AEMO to be used as a last resort when market responses are inadequate, or when unexpected events occur. They include the reliability and emergency reserve trader (RERT), directions and instructions.

4 This increased reliance on interventions prompted the Commission to initiate an investigation into intervention mechanisms in April 2019. The investigation commenced with the release of a consultation paper in April 2019. In August 2019, the Commission published the final report of its *Investigation into intervention mechanisms in the NEM,* referred to in this determination as the *Interventions investigation final report* (IIFR). That report made a number of recommendations for changes to the NER relating to intervention mechanisms.

## Rule change process

5 AEMO has submitted rule change requests in response to certain recommendations from the IIFR and requested that the rule change requests relating to mandatory restrictions and counteractions be progressed using the fast track process on the basis that consultation has already occurred as part of the investigation into intervention mechanisms. While AEMO did not request the rule change request relating to affected participant compensation be fast tracked, this issue was also consulted on as part of the interventions investigation and accordingly meets the criteria to be fast tracked.

6 Given the consultation already undertaken, the Commission determined that a fast track process is appropriate and initiated the three rule change requests with the publication of a notice on 28 May 2020. The requests have also been consolidated to facilitate streamlined

engagement with stakeholders through this draft determination. Submissions on the draft determination and draft rule are due by **30 July 2020.**

### Draft rule

7 This draft determination and associated draft rule deals with three recommendations of the IIFR. The draft rule:

- deletes rule 3.12A, clause 3.15.10B, clause 3.14.5(c)(4) of the NER and attendant clauses and definitions relating to the mandatory restrictions framework
- removes the requirement on AEMO to use counteractions in connection with intervention events set out in clauses 3.8.1(b)(11) and 4.8.9(h)(3) of the NER
- amends clauses 3.15.9(b), 3.15.9(d) and 3.15.9(e) of the NER to provide a clear basis for AEMO to recover and apportion the cost of compensation to affected participants and market customers with scheduled loads following RERT activation.

### Mandatory restrictions

8 Mandatory restrictions on the use of electricity may be imposed by a jurisdiction as a means of controlling demand and averting or reducing the need for mandatory load shedding. Under the framework established by rule 3.12A, AEMO is then required to call for sufficient restriction offers (these are for contracts between AEMO and market participants for participants to provide capacity in the event mandatory restrictions are in place) equal to the estimated reduction in demand due to the restrictions. If actual demand exceeds the level estimated and generation under restriction offers needs to be dispatched by AEMO, such capacity is priced at the market price cap. This increases the risk that the cumulative price threshold will be tripped, muting scarcity price signals and discouraging demand response at a time when it is most valuable.

9 In relation to mandatory restrictions, the draft rule removes the framework set out in the NER but does not change the ability of states to impose restrictions under state-based legislation. The framework has not been used since its inclusion in the NER in 2001. It is complex and could lead to inefficient outcomes and high costs to consumers. As such, the Commission has determined that the framework established by rule 3.12A should be removed, together with related clauses such as 3.15.10B (relating to cost recovery) and 3.14.5(c)(4) (relating to pricing during market suspension).

10 Given the difficulty in accurately estimating demand reduction, the Commission considers that the risk of unintended pricing outcomes and increased costs to consumers is high. Accordingly, the Commission has determined that it is preferable — if restrictions are imposed by a jurisdiction — to allow the market to operate as normal, enabling participants to respond efficiently in real time to price signals that accurately reflect the supply demand balance. The removal of the framework may reduce the risk of perverse spot price outcomes: for example, if the cumulative price threshold is tripped and prices are limited by the administrative price cap, which would mute scarcity signals and discourage demand response when it is most required.

11 The Commission also notes that the market context has changed significantly since the mandatory restrictions provisions were introduced in 2001 — for example, technological

advancement and increased consumer engagement mean there is greater demand response capacity allowing participants to be far more responsive to real time prices.

**Counteraction requirement**

12 In order to minimise the number of affected participants (those who are dispatched differently as a result of an intervention) and impact on interconnector flows, AEMO may seek to offset the impact of an intervention by issuing counteraction instructions to adjust the dispatch targets of certain market participants. This is designed to confine the impact of the intervention to one region or, if possible, one participant. However, this can create tension with AEMO's obligation to minimise the cost of directions (clause 4.8.9(b)(1) of the NER).

13 The Commission has determined that the counteraction requirement should also be removed — specifically by removing clause 4.8.9(h)(3) and clause 3.8.1(b)(11) of the NER. These provisions require, as far as reasonably practical, that during an AEMO intervention event the number of affected participants and the effect on interconnector flows is minimised.

14 The Commission considers that requiring AEMO to "manually" adjust dispatch targets in order to limit the number of affected participants and confine the impact of an intervention to a single region can increase costs compared with the alternative of allowing the national electricity market dispatch engine (NEMDE) to optimise dispatch targets automatically and at least cost in the wake of an intervention event. The Commission considers that cost minimisation is a more important objective than minimising the number of affected participants and impact on interconnector flows. The removal of the counteraction requirement will allow NEMDE to optimise at least cost in the wake of an intervention, thus reducing costs to consumers.

**Affected participant compensation cost recovery**

15 An intervention event may lead market participants to be dispatched differently, these participants are classified, broadly speaking, as affected participants and may be entitled to compensation. In relation to recovering the cost of affected participant compensation following RERT activation, the Commission has determined that clause 3.15.9 should be amended to provide a clear basis on which AEMO can recover the cost of affected participant compensation following RERT activation. The amendments will allow such costs to be recovered in a way that is proportional to the energy consumed by each market customer in a trading interval, consistent with the approach to recovering other RERT related costs.

16 These amendments to clause 3.15.9 will provide greater certainty by formalising the basis on which AEMO currently apportions and recovers affected participant compensation costs when the RERT is activated. The rule change is also necessary to preserve a fundamental principle of the National Electricity Law (NEL) and the NER, namely that every obligation to pay must have a corresponding right of recovery.

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## APPENDICES



## TABLES



## FIGURES

# 1 AEMO'S RULE CHANGE REQUESTS

This chapter outlines:

- background information related to intervention mechanisms, including the Commission's *Investigation into intervention mechanisms in the NEM* report
- a summary of the three rule change requests made by AEMO that are the subject of this draft determination
- an overview of the rule making process, including the consultation process for this draft determination.

## 1.1 Intervention mechanisms

Intervention mechanisms form part of the reliability framework in the NEM.[1] Intervention mechanisms are tools that are available to AEMO in circumstances where the market response has been inadequate to maintain a reliable and secure power system, or in response to unexpected events. Broadly speaking, intervention mechanisms available to AEMO include the reliability and emergency reserve trader (RERT)[2], directions and instructions.[3]

- AEMO can issue directions (or instructions) to certain registered participants to increase (or decrease) their output or a scheduled load to decrease (or increase) its consumption. Directions are made in relation to scheduled plants or market generating units.
- Instructions are made in relation to any registered participant other than a scheduled plant or market generating unit. In practice, this means that instructions are often made to network service providers to shed and restore load consistent with schedules provided by the relevant state government.[4]
- The RERT is the NEM's strategic reserve and 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 and where practicable, to maintain power system security.[5]

In addition to the above, jurisdictions within the NEM may impose mandatory restrictions on demand under state based legislation — this is another form of market intervention that forms part of the reliability framework but is initiated by state and territory governments,

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1 For a more detailed discussion see Reliability Panel, *The Reliability Standard: current considerations*, 12 March 2020.

2 Clause 3.20 of the NER.

3 Clause 4.8.9 of the NER.

4 AEMO, *Procedures for issue of directions and clause 4.8.9 instructions*, 6 September 2019, p. 5.

5 In March 2020, following advice from the Energy Security Board (ESB), COAG Energy Council agreed to implement interim measures to deliver further reliability by establishing an interim out-of-market capacity reserve and amending triggering arrangements for the Retailer Reliability Obligation (RRO). These measures, which the ESB is currently developing, would allow AEMO to procure reserves for contract terms of up to three years, replacing the long notice RERT. They aim to keep unserved energy to no more than 0.0006% in any region in any year. See COAG Energy Council, Meeting communique, 20 March 2020, p. 1, accessed at: http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/EC%20-%20communique%20-%2020200320.pdf and COAG Energy Council, Interim reliability measures, accessed 4 June 2020 at: http://coagenergycouncil.gov.au/reliability-and-security-measures/interim-reliability-measures.

rather than by AEMO. If a jurisdiction imposes such restrictions, the NER includes a framework by which AEMO manages dispatch and pricing with the aim of preserving scarcity signals and reducing market distortion.[6]

As the energy market transition occurs and the composition of the generation fleet transforms from a large number of large, synchronous units to a large number of smaller, dispersed generators that are non-synchronous, this has created increasing challenges for the maintenance of power system security. In relation to reliability, the NEM historically has largely delivered a high level of reliability, but as the supply/demand balance has grown tighter there have been instances of higher levels of unserved energy forecast.

In addressing these challenges, AEMO has increasingly relied on intervention mechanisms — particularly directions — to maintain system security and, to a lesser degree, reliability. Table 1.1 summarises the types of interventions used by AEMO. Figure 1.1 shows the increased use of directions by AEMO since 2005-6, particularly in South Australia.

**Table 1.1: Interventions in the NEM**

| TYPE, NO. OF TIMES USED | FUNCTION | EXAMPLE |
|---|---|---|
| Reliability and emergency reserve trader (RERT). RERT has been activated nine times since November 2017. | To maintain system reliability. If the RERT has been procured for reliability purposes, it can also be used to manage security issues. (This has not occurred to date.) | On 24 and 25 January 2019, AEMO activated RERT contracts to reduce demand in Victoria and South Australia. |
| Directions to manage reliability or system security. 515 directions have been issued in the period since April 2017. | To maintain system security (e.g. adequate system strength, voltage support, frequency) or reliability. | In the period since April 2017, AEMO has issued more than 400 directions to generators in South Australia to maintain adequate system strength. The directions ensure an appropriate combination of synchronous generating units is operating at all times. |
| Instructions are used relatively infrequently | While instructions are most often used to require a network service provider to implement load shedding, they can also be used for other purposes - e.g. to require a | On 25 January 2019, AEMO instructed AusNet Services to shed 250 MW of customer load in Victoria. |

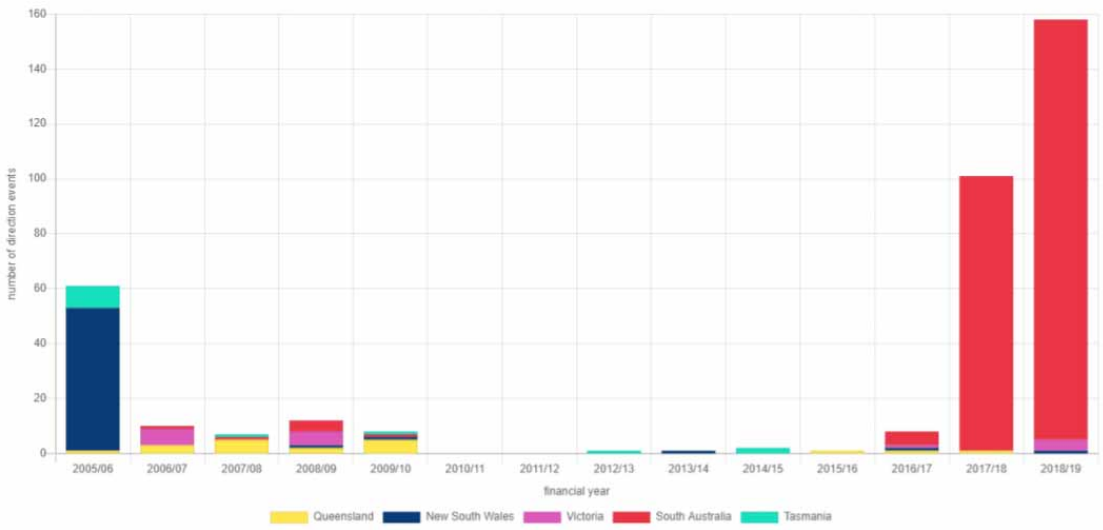
6 Clause 3.12A of the NER.

| TYPE, NO. OF TIMES USED | FUNCTION | EXAMPLE |
|---|---|---|
| | network asset to be returned to service. | |

Source: AEMO, Summer 2017-18 operations review, May 2018, p. 4.; AEMO, Load Shedding in Victoria on 24 and 25 January 2019, 16 April 2019; AEMO, NEM Event - Directions 8 to 13 February 2019, October 2019; AEMO, Procedures for issue of directions and clause 4.8.9 instructions, 6 September 2019. AEMO, Reliability and Emergency Reserve Trader (RERT) Quarterly Report Q1 2020, May 2020; AEMO, Reliability and Emergency Reserve Trader (RERT) Quarterly Report Q4 2019, February 2020; AEMO, RERT report 2018-19, 30 July 2019. Data on number of directions was provided by AEMO and is current as of 20 April 2020.

Note: The infrequent use of reliability directions reflects that, when the supply demand balance is tight, it is generally more profitable for generators to participate in the market voluntarily and receive the spot price, rather than be directed and then compensated under the framework established by the NER.

**Figure 1.1: Directions issued by AEMO**




Source: Reliability Panel, *2019 Annual Market Performance Review, Final report*, 12 March 2020, p. 147. AEMC analysis of data provided by AEMO.

### 1.1.1 Intervention pricing and compensation frameworks

When AEMO intervenes in the market, it is required to comply with a number of principles and processes. For example, when activating the RERT or issuing a direction, AEMO is required, as far as reasonably practical, to minimise the number of affected participants[7] and the effect on interconnector flows. It does this through the use of "counteractions" (discussed further in chapter 4).[8] The use of intervention mechanisms also triggers the operation of two related but separate frameworks relating to "intervention pricing" and compensation.

#### Pricing

7 Broadly speaking, affected participants are those which are dispatched differently as a result of an intervention event.

8 A more detailed discussion of the principles and processes associated with intervention mechanisms is set out in chapter 3 of AEMC, *Investigation into intervention mechanisms and system strength in the NEM,* consultation paper, 4 April 2019.

Intervention pricing is a practice designed to reduce market distortion and preserve investment signals by setting prices across the NEM at the level which AEMO considers would have applied but for the direction. When AEMO intervenes in the market by activating the RERT, it is required on each occasion to implement intervention pricing. By contrast, when AEMO issues a direction, it is required to determine whether intervention pricing should be implemented having regard to the regional reference node test (RRN test) set out in clause 3.9.3 of the NER. The RRN is the location in each region at which spot prices are determined by NEMDE.

The RRN test essentially asks whether a direction issued to a plant at the RRN would have avoided the need for the direction actually issued. If the answer is yes, intervention pricing is applied; if no, intervention pricing is not applied. If the RRN test is met, AEMO is required to implement intervention pricing when it activates the RERT or issues a direction.[9]

**Compensation**

The NER sets out a compensation framework under which compensation may be payable to directed participants and to affected participants. A directed participant is a participant which is directed to provide services. Broadly speaking, affected participants are those who are dispatched differently due to activation of the RERT or issuance of a direction. Chapter 10 of the NER defines "affected participant" as a scheduled generator or scheduled network service provider which is dispatched differently as a result of an intervention event.[10] Changes to affected participant compensation are currently under consideration under a separate but related rule change process related to two rule change requests from AEMO on *Compensation for scheduled loads affected by interventions* and *Affected participant compensation for FCAS losses* (see section 1.1.3).

Market customers with scheduled loads may also be entitled to compensation if the scheduled load is dispatched differently as a result of an intervention event. Such customers are compensated under the same clause as affected participants but are not defined as affected participants. For the purpose of this draft determination, unless otherwise indicated, a reference to affected participants will be taken to include market customers with scheduled loads which are dispatched differently due to an intervention event.

In the majority of cases, compensation for directed and affected participants is calculated automatically in the first instance. For example, when a participant is directed to provide energy or market ancillary services, it is compensated based on the 90th percentile price for the relevant region over the preceding 12 months.[11] When participants are directed to provide services other than energy and market ancillary services (something which is relatively infrequent), they may be compensated under the "fair payment price" framework set out in clause 3.15.7A of the NER — a process which is less straightforward than compensation under clause 3.15.7. A directed participant may lodge a claim for additional

9 AEMC, *Application of the regional reference node test to the reliability and emergency reserve trader*, rule determination, 19 December 2019.

10 The definition also includes "eligible persons", being settlement residue distribution (SRD) unit holders who are entitled to receive an amount from AEMO where there has been a change in flow of a directional interconnector. Affected participants are compensated under clause 3.12.2 of the NER.

11 Clause 3.15.7 of the NER.

compensation if it is still out-of-pocket following the initial compensation calculation process.[12]

Similarly, AEMO calculates compensation for affected participants to put them in the position they would have been in but for the intervention event.[13] This occurs automatically and there is no need for an affected participant to lodge a claim in respect of this initial calculation. However, an affected participant may submit a claim under clause 3.12.2(f) of the NER if it wishes to have its compensation entitlement reviewed.[14]

### 1.1.2 The *Investigation into intervention mechanisms in the NEM*

In response to the increasing use of intervention mechanisms, the Commission commenced an investigation into intervention mechanisms and system strength in the NEM with the release of a consultation paper in April 2019.[15]

The consultation paper examined a number of issues relating to intervention mechanisms, including intervention pricing, compensation for directed and affected participants, mandatory restrictions, counteractions, the hierarchy of intervention mechanisms and price setting during RERT events. A final report was published in August 2019, with the Commission noting that further consultation would be undertaken when recommended rule change requests were submitted.[16]

The rule change requests which are the subject of this draft determination action recommendations made by the Commission in the *Interventions investigation final report.* They relate to the removal of the mandatory restrictions framework, the removal of the counteraction obligation on AEMO, and cost recovery of affected participant compensation following RERT activation. The recommendations were as follows:

- **Removal of mandatory restrictions** - That AEMO submit a rule change request to remove the mandatory restrictions framework from the NER.
- **Removal of the counteraction obligation on AEMO** - That AEMO submit a rule change request to amend clauses 4.8.9(h)(3) and clause 3.8.1(b)(11) so as to remove the current requirement to issue counteraction instructions in order to minimise, in connection with an AEMO intervention event, the number of affected participants and the impact on interconnector flows. Instead, NEMDE should be allowed to optimise dispatch targets at least cost in the wake of an intervention event.
- **Cost recovery of affected participant compensation following RERT activation** - The Commission recommends that AEMO submit a rule change request to amend the NER in order to:

12 Clause 3.15.7B of the NER

13 Clause 3.12.2 of the NER.

14 For more detail on intervention pricing and the compensation framework, see chapters 3 and 4 of AEMC, *Investigation into intervention mechanisms in the NEM,* final report, August 2019.

15 AEMC, *Investigation into intervention mechanisms and system strength in the NEM,* consultation paper, 4 April 2019.

16 AEMC, *Investigation into intervention mechanisms in the NEM,* final report, August 2019. The final report is referred to in this determination as the *Interventions investigation final report* or IIFR. Further work on system strength issues is continuing: see AEMC, *Investigation into system strength frameworks in the NEM,* discussion paper, 26 March 2020.

- provide a clear basis on which to recover affected participant compensation costs due to a RERT activation from market customers in the relevant region, and
- include a requirement in the rules to report on the payment of compensation to individual affected participants following a RERT activation.

AEMO considered these recommendations and submitted rule change requests to the Commission in order to give effect to these recommendations.

### 1.1.3 Related intervention rule changes

A number of other recommendations in the *Interventions investigation final report* have already been actioned. These include the following rule changes.

- Changes to the regional reference node test set out in clause 3.9.3 of the NER were made in December 2019.[17] The RRN test is used to determine whether AEMO should implement intervention pricing in connection with an "AEMO intervention event" (meaning activation of the RERT or issuance of directions). Under the revised RRN test, intervention pricing is to be implemented where an AEMO intervention event is for the purpose of obtaining a service for which there is a market price (i.e. energy or market ancillary services, or a service which is a direct substitute for these). Where the purpose of an intervention is to obtain a service for which there is no market price (e.g. voltage control or system strength), intervention pricing will not apply. This recognises that, in such circumstances, there is no relevant market price signal to preserve.
- Changes were also made to the circumstances in which affected participant compensation is payable in connection with an intervention event. Under the revised approach, affected participant compensation is only payable in circumstances where an AEMO intervention event triggers intervention pricing in accordance with the revised RRN test.[18]
- As part of the same package of rule changes, the compensation threshold applicable to compensation payable to directed participants and affected participants was also amended. Under the revised approach, the $5,000 compensation threshold applies per intervention event rather than per trading interval (as was previously the case). This minimises the potential for directed and affected participants to incur loss as a result of AEMO intervention events.[19]

In addition to the above changes, and the rule change request which is the subject of this consultation paper, AEMO has submitted a number of other rule change requests dealing with aspects of the interventions framework. These will be the subject of separate rule change processes.

- **Removal of intervention hierarchy** - AEMO has proposed that the requirement for AEMO to exercise RERT before issuing directions or instructions should be removed from

17 AEMC, *Application of the regional reference node test to the reliability and emergency reserve trader,* rule determination, 19 December 2019.

18 AEMC, *Application of compensation in relation to AEMO interventions,* rule determination, 19 December 2019.

19 AEMC, *Threshold for participant compensation following market intervention,* rule determination, 19 December 2019.

the Rules and replaced by a principle requiring AEMO to endeavour to minimise the costs and maximise the effectiveness of an intervention in the NEM.[20]

- **Affected participant compensation for FCAS losses** - AEMO has proposed to include FCAS prices amongst the compensable factors to be considered in determining additional compensation in a non-restrictive fashion.[21]
- **Compensation for scheduled loads affected by interventions** - AEMO has proposed changes to the formula for calculating Affected Participant compensation, specifically, changing the term of BidP in the formula for calculating affected participant compensation for a schedule load (market customer).[22]
- **Compensation following directions for services other than energy and market ancillary services** - AEMO has proposed removing the current two-step process to determining compensation following directions for services other than energy and market ancillary services and has proposed an alternative one-step process in its place.[23]

The status of these rule change processes is as outlined below:

- On 28 May 2020, the AEMC initiated the *Removal of intervention hierarchy* rule change through a fast-tracked process. A draft determination and draft rule will be published on 18 June.
- On 11 June 2020, the AEMC initiated two rule change requests on *Compensation for scheduled loads affected by interventions* and *Affected participant compensation for FCAS losses* through a consolidated and standard rule change process.
- On 11 June 2020, the AEMC initiated the rule change request on *Compensation following directions for services other than energy and market ancillary services* through a standard rule change process.

## 1.2 Rule change requests

This section outlines the key points of the rule change requests received by the Commission which are subject to this draft determination.

### 1.2.1 Mandatory restrictions framework

On 23 October 2019, AEMO made a request to the Commission to amend the NER by removing the mandatory restrictions framework set out in rule 3.12A of the NER.[24]

#### Current arrangements

The mandatory restrictions framework was introduced to the NER in 2001 in response to supply shortages in Victoria and South Australia during January and February 2000. The NER

20 For further information, see https://www.aemc.gov.au/rule-changes/removal-intervention-hierarchy
21 For further information see https://www.aemc.gov.au/rule-changes/affected-participant-compensation-fcas-losses
22 For further information see https://www.aemc.gov.au/rule-changes/compensation-scheduled-loads-affected-interventions
23 For further information see https://www.aemc.gov.au/rule-changes/compensation-following-directions-services-other-energy-and-market-ancillary-services
24 AEMO, *Removal of mandatory restrictions framework,* rule change request, October 2019.

defines mandatory restrictions as "restrictions imposed by a participating jurisdiction, by a relevant law, other than the rules, on the use of electricity in a region".

In the event of mandatory restrictions, AEMO must:

- create a mandatory restriction schedule, which estimates the profiled decrease in demand arising from the mandatory restrictions for the current or following trading day
- call for mandatory restriction offers from scheduled generators or scheduled network service providers — the offers are the quantities and prices of capacity that may be used to meet the mandatory restriction schedule
- use the cheapest available mandatory restriction offers to meet the mandatory restriction schedule — the accepted mandatory restriction offers are then repriced at the Market Price Cap for use in central dispatch.[25]

The trading system is detailed in the AEMO operating procedure on mandatory restriction offers.[26] Settlement of the mandatory restriction offers is addressed in NER 3.12A.7.[27] The framework is explained in more detail in chapter 3.

**Rationale for the rule change request**

As noted by AEMO in its rule change request, the mandatory restrictions framework is complicated and has never been used since its inclusion in the NER 19 years ago.[28] AEMO agreed with the Commission's analysis of problems with the framework, as set out in the *Interventions investigation final report*. In its rule change request AEMO noted that:[29]

- there are inherent difficulties in accurately forecasting the demand reductions associated with mandatory restrictions (or rationing) of electricity imposed by jurisdictional authorities.
- the mandatory restrictions framework was intended to preserve the high prices that signalled energy scarcity without the need for involuntary load shedding. However, this works well only if the mandatory restrictions schedule is accurate. If the mandatory restrictions schedule underestimates the demand reductions, then high prices may be suppressed. If the mandatory restrictions schedule overestimates the demand reductions, then high prices may be exacerbated. If high prices are exacerbated that could trigger administered pricing which in turn would reduce the incentive for demand-side response at a time when it is most valuable.
- the market can now use the RERT as a form of intervention to manage reserve shortfalls.
- retaining the mandatory restrictions framework will impose ongoing administrative costs, including maintaining mandatory restrictions trading systems and training staff to use it.

25 Ibid, p. 2.

26 AEMO, *Mandatory restriction offers - Procedure SO_OP_3713, 30 November 2015*, operating procedure, accessed at: https://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Power_System_Ops/Procedures/SO_OP_3713---MandatoryRestriction-Offers.pdf. This specification of the mandatory restrictions trading system is required under NER 3.12A.1(a).

27 AEMO, *Removal of mandatory restrictions framework,* rule change request, October 2019, p. 2.

28 Ibid.

29 Ibid, p. 3.

AEMO also notes the cost of building a new mandatory restrictions trading system to accommodate the shift to five minute settlement from mid-2021.

These points are discussed in more detail in chapter 3.

### Proposed changes to the rules

AEMO's rule change request proposes to resolve the issues discussed above by removing the mandatory restrictions framework from the NER. The proposed rule would delete rule 3.12A and attendant clauses such as clause 3.15.10B (dealing with cost recovery). The rule change request did not include proposed rule drafting.

## 1.2.2 Counteraction requirement

On 28 November 2019, AEMO submitted a rule change request to remove from the NER the obligation to use counteractions during interventions.[30]

In particular, the rule change request seeks to remove the current requirement on AEMO to endeavour to minimise the number of affected participants, and the effect on interconnector flows, during an AEMO intervention event. "Counteraction" is the term used to describe actions taken by AEMO to comply with this requirement. AEMO uses "counteraction instructions" with the aim of confining the impact of an AEMO intervention event to one participant if possible and/or to one region.

### Current arrangements

Clause 3.8.1(b)(11) requires, as far as reasonably practical, that during an AEMO intervention event the number of affected participants and the effect on interconnector flows is minimised. Clause 4.8.9(h)(3) provides that, if AEMO issues a direction or clause 4.8.9 instruction, AEMO may — to give effect to the direction or clause 4.8.9 instruction — select a market participant or market participants to become affected participants to implement clause 3.8.1(b)(11).

Where possible, AEMO complies with this requirement by issuing counteraction instructions to selected market participants. Counteractions in response to a direction to provide energy may take the form of:[31]

- reducing the dispatch target for another unit or units in the same station as the directed unit, in order to minimise the number of affected participants and impact on interconnector flows
- reducing the dispatch target for another unit or units in the same portfolio as the directed unit, in order to minimise the number of affected participants, and – if the intervention is contained within a single region – the impact on interconnector flows, or
- reducing the dispatch target for another unit or units in the same region as the directed unit, in order to minimise the impact on interconnector flows.

30 AEMO, *Removal of obligation to counteract during intervention*, rule change request, November 2019.

31 Ibid, p. 2.

AEMO has never used counteractions in connection with the RERT due to the impracticality of AEMO applying counteractions to minimise the number of affected participants and the effect on interconnector flows under rule 3.8.1(b)(11) of the NER in these circumstances.

**Rationale for the rule change request**

Reiterating the discussion in the AEMC's *Interventions investigation final report*, AEMO notes that the counteraction obligation may conflict with another obligation on AEMO — namely, the obligation set out in clause 4.8.9(b)(1) to minimise the cost of directions. AEMO noted that "the intention of counteraction was to minimise disruption to the market. However, minimising disruption, even if it can be achieved, is not the same as minimising costs". It goes on to note that "the cost of the dispatch solution associated with counteraction may be higher than the cost of the dispatch solution without counteraction, and there is no way of telling beforehand".[32]

AEMO agrees with the conclusion reached by the Commission in the *Interventions investigation final report* — namely, that the objective of minimising cost is more important than the objective of minimising the number of affected participants and the impact on interconnector flows. On this basis, AEMO requests that the counteraction obligation be removed from the NER.

AEMO also states that counteraction is seldom practical during most AEMO intervention events. Over the past three years, directions have most commonly occurred in South Australia during periods of high wind generation and low synchronous generation. At those times, the online synchronous generators are typically running at their minimum safe operating level and cannot reduce their output further - meaning AEMO cannot issue counteraction instructions to them to reduce their output when another unit is directed to increase its output (or maintain its output rather than desynchronise).

AEMO also notes the point made in the *Interventions investigation final report* that the counteraction obligation may result in a participant receiving compensation as both a directed participant and an affected participant.[33] As the Commission noted in the *Interventions Investigation Final Report*, this amounts to the participant being paid twice for the same amount of energy — once when it is directed to provide that energy, and once when it is directed to reduce output from another unit in order to offset the effect of the direction.[34]

**Proposed changes to the rules**

AEMO's proposal is to delete clause 3.8.1(b)(11) and clause 4.8.9(h)(3) from the NER.

### 1.2.3 Affected participant compensation cost recovery for RERT activation

On 19 September 2019, AEMO submitted a rule change request to clarify the basis for recovering and apportioning the cost of affected participant compensation payable in connection with activation of the RERT. In a subsequent letter to the Commission dated 9

32 Ibid, p. 3.
33 Ibid.
34 AEMC, *Investigation into intervention mechanisms in the NEM,* final report, 15 August 2019, p. 110.

April 2020, AEMO clarified that the intent of the rule change request was to clarify the arrangements for recovering the cost of compensation payable to affected participants as defined in chapter 10 of the NER and to market customers with scheduled loads who are eligible for compensation under clause 3.12.2(a)(2).[35]

### Current arrangements

The costs to AEMO of contracting for the provision of the RERT are recovered from market customers in accordance with clause 3.15.9 of the NER. The clause includes detailed provisions for calculating each market customer's share of the contractual costs incurred by AEMO in connection with RERT activations.

Clause 3.15.9(b) requires AEMO to include in participants' statements the amounts payable by AEMO under reserve contracts (i.e. RERT contract costs) as well as any amounts determined as payable by an independent expert under clause 3.12.3. That clause deals with affected participant claims to have their compensation entitlement reviewed. However, there is no reference in clause 3.15.9(b) to initial calculation (i.e. the calculation that happens before compensation is reviewed by an independent expert - clause 3.12.3) of affected participant compensation (clause 3.12.2), rendering the clause unclear with regard to affected participant compensation in the event of RERT activation.[36]

The rules are also silent on how affected participant compensation costs following RERT activation should be apportioned between regions or participants.[37]

### Rationale for the rule change request

AEMO currently recovers the cost of affected participant compensation following RERT activations in a manner consistent with the approach to apportioning and recovering the contractual costs associated with RERT. However, AEMO wishes to clarify the basis for apportioning and recovering the cost of affected participant compensation following RERT activation. Accordingly, it is seeking amendments to the NER to make explicit provision for the apportionment and recovery of such costs following RERT activations.

### Proposed changes to the rules

AEMO has not included specific drafting in its rule change request but proposes that clause 3.15.9 be amended to make clear that affected participant compensation costs following RERT activation (including compensation paid to market customers with scheduled loads) will be recovered from market customers in the region in which the RERT was activated in proportion to the energy consumed in a trading interval.[38]

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35 AEMO, *National Electricity Rule Proposal – clarification of recovering affected participant compensation for RERT activation*, letter, 9 April 2020.

36 AEMO, *RERT cost recovery for affected participants*, rule change request, 19 September 2019, p. 2.

37 Ibid.

38 Ibid, p. 6.

## 1.3 The rule making process

On 28 May 2020, the Commission published a notice to consolidate these three rule change requests, enabling a more streamlined approach to engagement with stakeholders.[39] The three rule change requests are consolidated under project code ERC0289 and named *Changes to intervention mechanisms*.

On the same date, the Commission also published a notice advising of its intention to commence the rule making process in respect of the rule change request and to do this under a fast-track process.[40]

This is because it concluded that the rule change request reflects the relevant recommendations of the *Investigation into intervention mechanisms in the NEM* and adequate consultation with the public was undertaken during that review.[41] Accordingly, the AEMC did not publish a consultation paper upon initiation of the rule change process.

### 1.3.1 Consultation on draft rule determination

The Commission invites submissions on this draft rule determination, including the draft rule, by **30 July 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 **25 June 2020**.

Submissions and requests for a hearing should quote project number ERC0289 and may be lodged online at www.aemc.gov.au.

39 This notice was published under section 93(1)(a) of the NEL.
40 This notice was published under section 95 of the National Electricity Law (NEL).
41 The decision to fast-track the rule change request was made under section 96A(1)(b) of the NEL.

# 2 DRAFT RULE DETERMINATION

This chapter outlines:

- a summary of the draft rule
- the rule making test for changes to the NER
- the assessment framework for considering the rule change request
- summary of reasons for the Commission's decision to make the draft rule, including against the national electricity objective

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

## 2.1 Draft rule

The Commission's draft rule determination is to make the draft rule as proposed by AEMO in its three rule change requests. In summary, the draft rule:

- removes rule 3.12A and attendant clauses such as 3.15.10B (relating to cost recovery) and 3.14.5(c)(4) (relating to pricing during market suspension) from the NER, thereby removing the mandatory restrictions framework
- removes clause 4.8.9(h)(3) and clause 3.8.1(b)(11) from the NER, thereby removing the obligation on AEMO to use counteractions in order to minimise the impact of an AEMO intervention event on the number of affected participants and the impact on interconnector flows
- amends subparagraphs (b), (d) and (e) of clause 3.15.9 of the NER to provide a clear basis for AEMO to recover and apportion the cost of compensation paid to affected participants and market customers with scheduled loads following RERT activation.

The Commission has determined that the above mentioned amendments to the NER take effect immediately upon the Commission making a final rule.

The Commission's reasons for making this draft determination are set out in section 2.4.

## 2.2 Rule making test

### 2.2.1 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).[42] This is the decision making framework that the Commission must apply.

The NEO is:[43]

> 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:

42 Section 88 of the NEL.
43 Section 7 of the NEL.

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system.

## 2.3 Assessment framework

In assessing the rule change request against the NEO the Commission has considered the following principles. The Commission notes that these are not uniformly relevant to each of the rule change requests dealt with in this draft determination.

- **Efficiency –** is the proposed approach efficient in terms of administrative costs and timing for participants? Does it send clear operational and investment signals to participants?
- **Transparency and predictability** – does the proposed approach provide clear and predictable arrangements for participants affected by interventions, thereby reducing uncertainty?
- **Risk allocation** – risk allocation and the accountability for investment and operational decisions should rest with those parties best placed to manage them. Does the proposed approach appropriately allocate risk to those parties best able to manage them?
- **Consistency** – does the proposed rule adopt a consistent approach with other parts of the regulatory framework where appropriate?

## 2.4 Summary of reasons

The draft rule made by the Commission is attached to and published with this draft rule determination. Having regard to the issues raised in the rule change requests, the Commission is satisfied that the draft rule will, or is likely to, contribute to the achievement of the NEO for the reasons set out below.

### 2.4.1 Removal of mandatory restrictions framework

The Commission's draft decision is that the mandatory restrictions framework should be removed. The reasons for this decision are:

- Removal of the framework may directly reduce costs to consumers by removing the need to recover the costs of any mandatory restrictions offers from market customers. The risk of under or over estimating the level of demand reduction in response to restrictions undermines the potential for the framework to preserve efficient price signals. Risks relating to restriction offer contractual costs cannot be hedged whereas, if the market operates as normal, usual hedging arrangements will be available.
- The removal of the mandatory restrictions framework preserves investment and market signals by allowing the market to operate as normal. If, even after restrictions have been imposed, the supply demand balance remains tight and spot prices high, then consumers will have an incentive to reduce demand further. Participants can respond to these signals in real time, leading to more efficient decisions by market participants. The framework may also give rise to perverse spot price outcomes: for example, if the cumulative price

threshold is tripped and prices are limited by the administrative price cap, which would mute scarcity signals and discourage demand response when it is most required.

- Developments in the NER in relation to the introduction of a wholesale demand response mechanism[44] and enhancements to the RERT have reduced the likelihood of jurisdictions needing to impose mandatory restrictions. In addition, today's NEM is markedly different to the market as it was in 2001 when the framework was included in the NER. Given technological advancement and increased consumer engagement, there is greater demand response capacity allowing participants to be far more responsive to real time prices.
- The Commission considers that the ongoing allocation of resources to maintain the mandatory restriction framework and accommodate its transition to five minute settlement is not justified given that it is complex and could lead to inefficient outcomes and high costs to consumers. The removal of the framework would therefore minimise unnecessary costs as AEMO transitions to five minute settlement.

### 2.4.2 Removal of obligation to counteract during intervention

The Commission's draft decision is that the obligation to counteract during intervention events should be removed. The reasons for this decision are:

- Cost minimisation is a more important objective than minimising the number of affected participants and impact on interconnector flows. The Commission considers that requiring AEMO to "manually" adjust dispatch targets in order to limit the number of affected participants and confine the impact of an intervention to a single participant and/or region can increase costs compared with the alternative of allowing NEMDE to optimise targets automatically and at least cost in the wake of an intervention event.
- Removing the counteraction obligation will also reduce (though not eliminate) the potential for a directed participant to receive affected participant compensation in addition to directed participant compensation.

### 2.4.3 Affected participant compensation for RERT activation

The Commission's draft decision is that clause 3.15.9 should be amended so that, when the RERT is activated, the basis for affected participant compensation cost recovery is clear. The reasons for this decision are:

- This clarification in clause 3.15.9 will provide greater certainty by formalising the basis on which to apportion and recover compensation costs when the RERT is activated.
- The rule change is also necessary to preserve a fundamental principle of the NEL and the NER, namely that every obligation to pay must have a corresponding right of recovery. The clarification in clause 3.15.9 will make sure that AEMO's payment liability is limited by its ability to recover costs, thus ensuring financial flows within the market are aligned with the intention of the rules.

44 AEMC, *Wholesale demand response mechanism*, final rule determination, 11 June 2020.

# 3 MANDATORY RESTRICTIONS FRAMEWORK

This chapter examines, with respect to the design and operation of the mandatory restrictions framework:

- the existing arrangements in the NER as well as issue arising for these arrangements
- the issues raised in the April 2019 consultation paper for the *Investigation into intervention mechanisms and system strength in the NEM*
- the Commission's analysis and determination.

## 3.1 Background and issues arising

### 3.1.1 Introduction of the mandatory restrictions framework

Mandatory restrictions on the use of electricity may be imposed by a jurisdiction[45] under state-based legislation as a means of controlling demand and averting a situation where there is insufficient generation capacity to meet demand, particularly in situations where mandatory load shedding is or would otherwise be necessary. These restrictions may come into effect during periods of extreme demand or instances where a sudden decrease in available capacity occurs.

When restrictions are imposed by a jurisdiction on a region, electricity users are requested to reduce demand (and large electricity users may be required to reduce demand). This reduces the quantity of electricity traded, the spot price, and thus the revenue earned by generators. The level of demand response that will be achieved by restrictions is difficult to estimate and the actual response by consumers may be more or less than is necessary.[46]

In late January and early February 2000, the supply of electricity in Victoria, NSW and South Australia was disrupted by a combination of technical issues and industrial action. On 23 January 2000, units at Bayswater, Mount Piper and Torrens Island power stations tripped in quick succession leading to a loss of over 1,400 MW or 10 per cent of demand.[47] In the first few weeks of February, the impact of industrial action at Yallourn was exacerbated by record high demand. As a result, demand exceeded supply in Victoria and South Australia and significant load shedding occurred in each region. On 4 February 2000, Victoria imposed demand restrictions which continued until 10 February 2000.[48] Anecdotal reports indicate that the response to the restrictions imposed in Victoria in February 2000 was so significant that the resulting fall in demand and the spot price led to generation being exported from Victoria to South Australia and NSW, which had not implemented restrictions.

In July 2000, the National Electricity Code Administrator (NECA – the predecessor of the AEMC) recommended that the Australian Competition and Consumer Commission (ACCC)

45 The National Electricity Market – Memorandum of Understanding on the Use of Emergency Powers 2015 defines jurisdictions as NSW, VIC, QLD, SA, ACT and TAS or any other party who becomes a party to this memorandum.

46 The reduction will not count towards the relevant jurisdiction's share of inter-regional load shedding and, perversely, may reduce the spot price at the height of a shortfall. This is in contrast to the approach whereby the spot price is set to the market price cap if involuntary load shedding occurs.

47 NECA, *Investigation into the Market's Performance in Extreme Conditions*, July 2000.

48 Ibid.

integrate demand restrictions into the market in order to preserve price signals and ensure that market prices during extreme event periods provide an appropriate incentive for new investment in generation and demand side management schemes.[49] Following the investigation, new provisions under Rule 3.12A were added to the NER in 2001 to incorporate mandatory restrictions in the centralised dispatch and pricing process.

The concept of integrating restrictions into the market to preserve scarcity price signals and balance supply and demand under extreme market conditions was supported in principle by stakeholder submissions during the proposed code change.[50] However, a number of stakeholders expressed concern to the ACCC about estimating demand reduction, unmanageable risk created for market customers, recovery of costs, gaming by customers, and jurisdictional intervention.[51] Submissions identified that the challenge of accurately estimating the likely impact of restrictions would distort outcomes and not achieve the intended objective of preserving efficient investment signals.[52]

The ACCC considered these issues in its final determination. It concluded that the proposed amendments to the Code were likely to result in a benefit to the public which outweighed the potential detriment from any lessening of competition that would result if the proposed conduct or arrangements were made or engaged in.[53]

### 3.1.2 Current arrangements

The rationale for introducing the mandatory restrictions framework was to preserve price signals during a period where demand is reduced as a result of restrictions and provide an incentive for generators to invest and increase supply. Rule 3.12A of the NER outlines how AEMO is to operate the market if mandatory restrictions are imposed by a jurisdiction. It includes provisions relating to the mandatory restrictions schedule, acquisition and dispatch of capacity, pricing during a restriction price trading interval, determination of funding restriction shortfalls, cancellation of a mandatory restriction period, and review by the AEMC. AEMO has developed a Mandatory Restriction Offers Procedure (2015) which explains the restriction offer process and outlines the arrangements for dispatching mandatory restriction offers when restrictions are declared in a jurisdiction.[54]

The NER defines mandatory restrictions as "restrictions imposed by a participating jurisdiction, by a relevant law, other than the rules, on the use of electricity in a region". An example of a relevant state law is the Electricity Supply Act 1995 (NSW).[55] The NSW Act

49 Ibid.

50 ACCC, *Amendments to the National Electricity Code*, determination, September 2001, accessed at https://www.accc.gov.au/system/files/public-registers/documents/D03%2B38144.pdf

51 Ibid.

52 Ibid.

53 Ibid.

54 AEMO, *Mandatory restriction offers - Procedure SO_OP_3713*, operating procedure, 30 November 2015.

55 Amendments were made to that Act following the February 2017 heatwave during which the NSW Government publicly encouraged customers to reduce demand. These amendments were designed to provide streamlined tools needed to manage an electricity supply emergency. The Electricity Supply Act amendments outline when directions can be issued and the terms by which they can be varied and revoked. Section 94B(2) provides that "electricity supply emergency directions may be given (…) to restrict the use of electricity in order to reduce demand". Directions may require large users of electricity to wholly or partly turn off or shut down any plant or equipment for a specified period.

recognises that AEMO has primary responsibility for managing electricity emergencies and are designed to support AEMO. For example, they empower the Minister to direct persons or corporations who are not registered participants in the NEM, thus assisting AEMO by undertaking actions that are beyond AEMO's remit.[56]

The provisions in rule 3.12A of the NER are designed to integrate mandatory restrictions into the market to support the delivery of a reliable and secure power supply. This is achieved through capacity contracting which is used to preserve scarcity price signals when demand falls in response to the imposition of a mandatory restriction.[57] Sufficient contracted capacity would likely assist in avoiding consumer outcomes seen in early 2000, when the demand response was so significant that the resulting fall in the spot price led to generation being exported from Victoria to South Australia and NSW, which had not implemented restrictions.

When a jurisdiction imposes restrictions on electricity usage in a region, AEMO will be required to call for sufficient restriction offers ("capacity contracts") equal to the estimated reduction in demand due to the restrictions. The estimated restricted demand for each trading interval of the upcoming trading day subject to a mandatory restriction is provided by the "mandatory restriction schedule", which is prepared by AEMO and approved by the participating jurisdiction.[58]

The mandatory restriction schedule is to be reviewed and, if appropriate, amended by AEMO any time that the forecast restricted demand differs from the actual regional demand by at least 50-150MW (dependent on the region). Following each amended schedule, AEMO contracts for further capacity or terminates excess capacity contracts as is required.[59] By this means, the quantity of contracted generation capacity can more accurately reflect the actual demand reduction that follows a mandatory restriction and thereby limit customer exposure to excessively high spot prices or contract costs, while preserving efficient scarcity price signals.

Capacity can be offered by any participant (generators and market network service providers) already presenting to the market. The scheduled capacity, equivalent to the estimated reduction in demand due to the restrictions, would be contracted to AEMO through price-quantity bids and withdrawn from the market for pricing purposes for the duration of the restrictions.[60] This scheduled capacity would remain available for dispatch at the market price cap once all other options, including scheduled loads, have been exhausted. AEMO is entitled to all spot market revenue from dispatch of these contracted capacities and uses this revenue

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56 The second reading speech for the Electricity Supply Amendment (Emergency Management) Bill 2017 notes that "in the majority of situations, the Australian Energy Market Operator can take the necessary action and does not require intervention from the New South Wales Minister. However, if the AEMO is not able to do what is needed because of limits on its powers, AEMO may require assistance from within New South Wales. Some examples where a New South Wales energy Minister may be asked to assist include: where directions must be given to persons other than registered participants in the national electricity market and AEMO requests that New South Wales declare an electricity supply emergency and exercise its local emergency powers; or where a power supply disruption is likely to have an extended duration requiring mandatory restrictions for the broader community, including exemptions for vulnerable consumers. The powers needed by the New South Wales Minister for energy are not likely to be used frequently, but when they are needed, they must operate quickly and effectively." accessed at: https://www.parliament.nsw.gov.au/bill/files/3455/2R%20Electricity%20Supply%20Amdt.pdf

57 ACCC, Pricing under Extreme Conditions, final determination, September 2001.

58 Clause 3.12A.2 of the NER.

59 Clause 3.12A.2(b)(c) and 3.12A.3 of the NER.

60 Clause 3.12A.1(c) of the NER.

to cover the costs of the contracts. Any remaining difference between the costs of the capacity contracts and the revenue from dispatching these contracts at the market price cap is called the "restriction amount shortfall". This is recovered from market customers proportional to their share of energy demand during the mandatory restriction period.[61]

### 3.1.3 Issues arising with respect to mandatory restrictions

The application of mandatory restrictions may result in outcomes that would leave market customers worse off than if the market were allowed to operate normally. Errors in the estimation of demand reduction due to restrictions may result in price outcomes that are on average higher than would have occurred had the estimate of demand reduction due to restrictions been accurate.

In addition to issues caused by inaccurate estimation of demand reduction, it is important to note the effect an administered price period could have on price signals during a mandatory restrictions period. An over-estimation of the demand reduction due to restrictions would trigger the need to dispatch contracted generation capacity at the market price cap (MPC), potentially for an extended period. This could have a major impact on market customers, particularly those who are not fully hedged. While an extended period of prices at the MPC will eventually exceed the cumulative price threshold (CPT) and trigger an administered price period (effectively capping retailers' market risk), risk exposure in the interim period could nonetheless be significant. Triggering an administered price period can also be expected to discourage demand response at a time when it is most needed.

Below we describe the outcomes associated with over and under-estimation of demand reduction, including the impact of an administered price period.

An over-estimation of demand reduction following a mandatory restriction would cause too much capacity to be contracted, resulting in contracted capacity being dispatched at the MPC and greater exposure to MPC events, at least until the CPT is tripped. As stated above, if the CPT is tripped then the spot price will be set to the administered price cap of $300/MWh. This will mute scarcity signals and incentives for demand response at an inopportune time.

For example, if AEMO estimates 1000 MW of demand reduction it will contract with 1000 MW of capacity, which if needed, is dispatched at the MPC. If the actual demand reduction is only 800 MW, 200MW of capacity will be dispatched at the MPC meaning customers would be exposed to the MPC at lower demand levels than necessary to reflect the scarcity of supply. Effectively, the amount of available supply as seen by the market is reduced by 200MW more than would be the case if generator contracting was not in place. In this case the mandatory restrictions framework in the NER results in prices that are higher than the natural supply scarcity would reflect. This imposes greater spot market costs on market customers as well as unnecessary excess contract costs.

An under-estimation of demand reduction following a mandatory restriction would cause market customers (and their consumers) to bear AEMO's costs of contracting generation capacity even if it is not ultimately dispatched. At the same time, the supply demand balance

61 Clause 3.12A.7 of the NER.

in the spot market is likely to be artificially tight (because of capacity contracted by AEMO), leading to exaggerated spot market price signals. This risks imposing excessive contractual and market costs on customers who are providing the demand reduction service to preserve power system reliability.

For example, if AEMO estimates 1000 MW of demand reduction but actual demand reduction is 1200 MW. In this case, if the amount of load shedding expected without mandatory restrictions was less than 200MW, the contracted capacity would not be dispatched at all. Hence, spot prices would not reflect the scarcity of supply (consistent with the framework's objective of preserving scarcity price signals when restrictions are imposed) but consumers would bear high contractual costs.

These examples illustrate the asymmetrical outcomes of the framework whereby its objective, to preserve scarcity price signals, is only achieved if demand reduction is forecast accurately.

## 3.2 Stakeholder views in response to the April 2019 consultation paper

The April 2019 consultation paper for the *Investigation into intervention mechanisms and system strength in the NEM* asked whether the mandatory restrictions framework should be retained and whether it should be amended in any way.[62] Specifically the paper requested stakeholder feedback on whether it would be preferable to use intervention pricing (as used for the RERT and directions) as the means to preserve scarcity price signals rather than require AEMO to contract for capacity (which, if dispatched, is priced at the MPC) independently of the normal dispatch process.

Stakeholders agreed that the mandatory restrictions framework is a significant intervention only to be used in times of extreme forecast load shedding.

The Australian Energy Council (AEC) recognised that mandatory restrictions are inherently distortionary and preferably avoided. However, it did recognise that state governments will reserve this power, and may exercise it should an extended period of shortfall develop. The AEC supported reviewing the framework and investigating whether its complex pricing mechanism could be replaced with a more familiar intervention pricing technique. However, the AEC suggested that, if this proved too complex, removal of the framework implies less market risk than retention in its current form.[63]

TasNetworks suggested intervention pricing could provide an alternative, more transparent, less blunt and easier to implement mechanism than mandatory restriction pricing.[64]

ERM noted that a major benefit of the current provisions is that, where mandatory restrictions are applied in a region, the impact of the "intervention" is to an extent confined to that region. ERM considered that replacing these provisions with intervention pricing provisions would result in market distortion with the impact of the mandatory restrictions

62 AEMC, *Investigation into intervention mechanisms and system strength in the NEM,* consultation paper, 4 April 2019.
63 AEC, submission to April 2019 consultation paper, p. 3.
64 TasNetworks, submission to April 2019 consultation paper, p. 4.

being transferred to other regions of the NEM. This is because, when AEMO activates the RERT or issues a direction in response to a shortage of energy or FCAS, intervention pricing is used to set prices across the NEM — not just in the region where the RERT was activated or direction issued. As such, ERM supported retaining the framework in its current form.[65]

Powershop noted that, given the inherent uncertainty associated with the forecasts that underpin this type of intervention, mandatory restrictions may result in the MPC being applied for excessive periods of time. However, Powershop suggested that the mechanism should remain available for the circumstances where AEMO and the relevant jurisdiction are unable to minimise bulk load shedding through directions, instructions, or the procurement of the RERT.[66]

ENGIE noted that steps taken by market participants, AEMO and the AEMC in recent years to cultivate additional demand side resources through contracts and rule changes means the likelihood of any jurisdiction needing to implement such restrictions (rather than elicit a voluntary response) has receded.[67]

AEMO and Snowy Hydro suggested that the framework should be removed. Snowy Hydro noted that the spot market (supported by the RERT and directions) can enable participants on both the supply and demand side to respond to price signals, even in extreme conditions.[68] AEMO noted that the framework has not been used since its inclusion in 2001 and that Victoria, South Australia and NSW have provided funding in support of RERT, suggesting this is a preferable means of managing supply shortfalls.[69]

Stakeholder views in response to the April 2019 consultation paper are summarised in the table below.

**Table 3.1: Stakeholder views on mandatory restrictions in response to April 2019 consultation paper**

| APPROACH | STAKEHOLDERS |
|---|---|
| Retain mandatory restrictions | Powershop, ERM (2) |
| Retain mandatory restrictions but consider intervention pricing option | PIAC, TasNetworks, AEC (3) |
| Remove mandatory restrictions | AEMO, SnowyHydro (2) |

Source: AEMC analysis

65 ERM, submission to April 2019 consultation paper, p. 4.
66 Powershop, submission to April 2019 consultation paper, p. 3.
67 ENGIE, submission to April 2019 consultation paper, p. 7.
68 Snowy Hydro, submission to April 2019 consultation paper, p. 6.
69 AEMO, submission to April 2019 consultation paper, p. 4.

In the *Interventions investigation final report*, the Commission concluded that the alternative of using intervention pricing to preserve investment price signals is problematic in the context of mandatory restrictions.[70] To use intervention pricing, AEMO would need to develop a counterfactual for the purpose of the "intervention pricing run" that reasonably estimates what demand would have been but for the restrictions.[71] Such a process would be inherently uncertain and thus subject to the same difficulties as the existing mandatory restriction provisions.

For this reason, the Commission concluded that it was preferable to remove the mandatory restrictions framework rather than amend it by incorporating intervention pricing in place of the current capacity contracting, dispatch and pricing provisions.[72] In line with the Commission's recommendation, AEMO's rule change request proposes to remove the entire mandatory restrictions framework.[73]

## 3.3 Commission's analysis and determination

The Commission has determined that the mandatory restriction framework should be removed by deleting rule 3.12A and attendant clauses. The Commission notes that, notwithstanding this change to the NER, jurisdictions will retain the ability to impose mandatory restrictions under state legislation should the need arise. The Commission considers that removing the mandatory restrictions framework is consistent with both the NEO and with the principles set out in section 2.3.

The Commission has determined that it is preferable - if restrictions are imposed by a jurisdiction - to allow the market to operate as normal, enabling participants to respond efficiently in real time to price signals that accurately reflect the supply demand balance.

Accordingly, the draft rule:

- removes rule 3.12A and
- the following attendant clauses:
  - clause 3.14.5(c)(4), relating to pricing during market suspension
  - clause 3.15.10B, relating to cost recovery in the event the framework is triggered
  - removes, in clause 3.20.2(a), a reference made to section 3.12A.5
  - removes various definitions related to the mandatory restrictions framework.[74]

70 AEMC, *Intervention mechanisms in the NEM,* final report, August 2019, p. ix.

71 To implement intervention pricing, AEMO runs the NEM dispatch engine twice. The first run, known as the "dispatch run", sets the dispatch targets for all participants but not the price at which the market clears. The second run, the "intervention pricing run", excludes those units which have been directed to provide services, or the impact of the RERT activation, so as to estimate what the spot and market ancillary service prices would have been *but for* the intervention. This intervention pricing run sets the price at which the entire NEM clears. Were such an approach to be used in the context of mandatory restrictions, it would be necessary to estimate — for the intervention pricing run — what demand would have been *but for* the mandatory restrictions.

72 AEMC, *Investigation into intervention mechanisms in the NEM,* final report, August 2019, p. 134.

73 AEMO, *Removal of mandatory restrictions framework,* rule change request, October 2019, p. 2.

74 Definitions that are deleted under the draft rule include: accepted restriction offer, mandatory restriction, mandatory restriction period, mandatory restriction schedule, restriction demand reduction, restriction offer, restriction offer procedures and restriction shortfall amount.

### 3.3.1 Rationale for the decision

#### Efficiency

In relation to efficiency, the Commission considers that the removal of the mandatory restrictions framework will promote efficiency by removing the risk of inefficient outcomes and allowing participants to respond dynamically to prices that reflect the actual supply demand balance. If, even after restrictions have been imposed, the supply demand balance remains tight and spot prices high, then consumers will have an incentive to reduce demand further. The reverse is also true. That is, if consumers respond strongly to mandatory restrictions and reduce demand significantly beyond the level required to avoid load shedding (as occurred in Victoria in early 2000), the spot price will fall, thereby signalling to consumers that the supply demand balance is no longer tight. Participants can respond to these signals in real time, leading to more efficient decisions by market participants.

Removing the framework will also drive efficiency by removing the need to recover the costs of any mandatory restrictions offers (capacity contracts) from market customers. The risk of under or overestimating the level of demand reduction in response to restrictions undermines the potential for the framework to send efficient price signals. As such, the removal of the framework may directly reduce costs to consumers that would be incurred if the framework were ever to be used. These results are likely to contribute to the achievement of the NEO.

In addition, the Commission considers it unlikely that such infrequent events would be a major factor informing investment decisions. Given this, the preservation of investment signals is best served by the removal of the mandatory restrictions framework and allowing the market to operate as it would otherwise during instances of supply scarcity.

The Commission accepts AEMO's advice that removing the mandatory restrictions in the NER will remove the need to maintain the mandatory restrictions trading system and train staff to use it, and remove the need to build a new mandatory restrictions trading system to accommodate the shift to five minute settlement. The Commission has determined that the ongoing allocation of AEMO resources to maintain the framework is not justifiable and its removal will reduce costs to participants and AEMO. This in turn can be expected to reduce costs to consumers, consistent with the NEO.

#### Transparency and predictability

In relation to transparency and predictability, the Commission considers that removing the framework will improve transparency and predictability by removing a complex, unfamiliar process which has never been used and allowing the market to operate as normal. This will reduce the uncertainty that would arise if the framework were to be triggered, creating the potential for unintended pricing outcomes.

The mandatory restrictions framework has not been used to date and, given the difficulty in accurately estimating the level of demand reduction that will be achieved by restrictions, the Commission has determined that the risk of unintended pricing outcomes is high. For example, if demand is higher than anticipated and contracted generation capacity has to be dispatched, it is dispatched at the MPC. This creates a risk of tripping the CPT and triggering

an administered price period, thereby muting scarcity signals and demand response incentives at a time when they are most needed.

The Commission also notes that, given technological advancement and increased consumer engagement, there is greater demand response capacity allowing participants to be far more responsive to real time prices. Should conditions arise that necessitate the imposition by a jurisdiction of mandatory restrictions, the increased capacity for demand response following the introduction of the wholesale demand response mechanism[75] and enhancements to the RERT framework mean the market has a greater ability to manage such conditions.[76]

In addition, in March 2020, following advice from the Energy Security Board (ESB), COAG Energy Council agreed to implement interim measures to deliver further reliability by establishing an interim out-of-market capacity reserve. The measure allows AEMO to procure reserves for contract terms of up to three years, replacing the long notice RERT. The measure will be triggered to keep unserved energy to no more than 0.0006% in any region in any year.[77] As of May 2020, the Energy Security Board (ESB) was seeking stakeholder feedback on draft amendments to the National Electricity Rules (Rules) that will implement the temporary out-of-market capacity reserve.[78]

### Risk allocation

In relation to risk allocation, the Commission considers it preferable to remove rather than retain the framework, thereby allowing the market to operate as it would otherwise in the event a jurisdiction imposes restrictions. As discussed earlier, the mandatory restrictions framework entails significant risks that market participants and ultimately consumers will bear higher market and contractual costs than necessary. Risks relating to restriction offer contractual costs cannot be hedged whereas, if the market operates as it would otherwise, usual hedging arrangements will be available.

### Consistency

Finally, in relation to consistency, the Commission considers that removing the framework (which is complex and does not resemble other parts of the NER) will increase consistency, enabling the market to operate as normal in the event a jurisdiction should impose restrictions.

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75 AEMC, *Wholesale demand response mechanism*, final rule determination, 11 June 2020.

76 For example, the Commission has recently amended the RERT to better position it to support reliability issues within the NEM, see AEMC, *Enhancement to the Reliability and Emergency Reserve Trader,* final determination, 2 May 2019. The Commission has also made a rule to enable multi-year RERT contracting under certain circumstances in Victoria for a limited period, see AEMC, *Victorian jurisdictional derogation – RERT contracting*, final determination, 12 March 2020.

77 COAG Energy Council, Meeting communique, 20 March 2020, p. 1, accessed at: http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/EC%20-%20communique%20-%2020200320.pdf; ESB, Interim reliability measures, March 2020, accessed at: http://coagenergycouncil.gov.au/reliability-and-security-measures/interim-reliability-measures

78 ESB, *Interim reliability measures - reliability reserve consultation on draft rules,* consultation paper, May 2020, accessed at: http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Consultation%20Paper%20on%20Interim%20Reliabity%20Measures%20Draft%20Rules%20-%20Reliability%20Reserve.pdf

# 4 COUNTERACTION REQUIREMENT

This chapter examines:

- the requirement on AEMO to use counteractions in connection with intervention events and issues arising in relation to this requirement
- stakeholder views in response to the April 2019 consultation paper
- the Commission's analysis and determination.

## 4.1 Background and issues arising

### 4.1.1 Current arrangements

Clause 3.8.1(b)(11) requires, as far as reasonably practical, that during an AEMO intervention event the number of affected participants and the effect on interconnector flows is minimised.[79]

Clause 4.8.9(h)(3) provides that, if AEMO issues a direction or clause 4.8.9 instruction, AEMO may — to give effect to the direction or clause 4.8.9 instruction — select a market participant or market participants to become affected participants to implement clause 3.8.1(b)(11).[80]

Where possible, AEMO complies with this requirement by issuing counteraction instructions to selected market participants. For example, it may direct on a unit at a power station and constrain down output from another unit at the same station, or at another station owned by the same participant. This has the effect of limiting the number of affected participants but, as discussed below, may result in a single participant being paid twice for the same energy output. Where it is not possible to confine the impact of a direction to a single participant, AEMO will if practicable issue counteraction instructions to another participant in the same region. This confines the effect of the direction to a single region, thereby limiting impacts on interconnector flows.

AEMO advises that its current systems do not support automatic invocation of counteraction constraints and counteractions must therefore be implemented manually.[81]

In its rule change request AEMO states that, "in practice, counteraction is seldom feasible in the current power system. Over the past three years, directions have most commonly occurred in South Australia during periods of high wind generation and low synchronous generation. At those times the online synchronous generators are typically running at their minimum safe operating level and cannot reduce their output further. It is also not practicable to counteract on semi-scheduled generation using AEMO's current systems, which were

79 An "AEMO intervention event" encompasses both the RERT and directions. While counteraction instructions have been used in connection with directions, they have not been used in connection with the RERT as they are not practicable.

80 It is noted that this provision refers to directions and clause 4.8.9 instructions whereas clause 3.8.1(b)(11) refers to an AEMO intervention event, which includes the RERT and directions but does not include instructions. It is therefore unclear what purpose is served by referring to clause 4.8.9 instructions. AEMO advises that it does not use counteractions in connection with clause 4.8.9 instructions.

81 AEMC, *Investigation into intervention mechanisms and system strength in the NEM,* consultation paper, April 2019, pp. 48-49.

designed to manage brief, infrequent interventions involving only scheduled generation (and load)."[82]

Where AEMO is not able to issue "manual" counteraction instructions (for example where there is no unit available within a region for counteraction), NEMDE will automatically optimise dispatch targets across the NEM to offset the impact of the direction. For example, when AEMO directs on gas fired generators in South Australia to provide system strength services and no units are available for counteraction, other generators across the NEM will automatically be constrained down to keep supply and demand in balance. This automatic optimisation process is done on a least-cost basis, whereas manual counteraction by AEMO is designed to limit the number of affected participants and impacts on interconnector flows.

### 4.1.2 Issue: effectiveness of counteraction instructions

In its rule change request, AEMO argued that the effects of counteractions can be hard to predict.

For example, during a system strength direction in April 2017, AEMO imposed counteractions on Ladbroke Grove and Osborne gas turbines. Notwithstanding these counteraction instructions, energy exports from South Australia to other regions increased as a result of the directions. In theory, the effect of counteractions should have been to keep export levels the same as they would have been absent the intervention. The AEMO market event report for this direction notes:[83]

> The directions to synchronise and dispatch to technical minimum loads resulted in approximately 1,423 megawatt hours (MWh) of direction-based generation being added to the market. Under NER 3.8.1 (b)(11), AEMO must ensure that, as far as reasonably practicable, the number of participants affected by the intervention, and the resulting changes to interconnector flows are minimised. To achieve this objective, AEMO applied counteraction constraints to reduce the output of Ladbroke Grove GT unit 1 and Osborne GT, in accordance with 4.8.9 (h)(3) of the NER...
>
> Directions in one region can cause dispatch changes to other regions, despite the use of counteraction constraints to minimise this effect... Of note is that while these directions displaced local generation in South Australia, they also increased exports from the region. The increased exports, coupled with an impact on network constraints, resulted in more energy flow northward, and displacement of some generation in New South Wales and Queensland.

While counteractions are aimed at confining the impact of the intervention event to the relevant region, this instance shows that — despite AEMO issuing counteraction instructions — the directions resulted in increased exports from South Australia as seen in Table 4.1, and thus the payment of affected participant compensation to generators in other regions which were dispatched less as a result of the direction.

82 AEMO, *Removal of obligation to counteract during intervention,* rule change request, November 2019, p. 2.

83 Adapted from AEMO, *NEM Event – Direction 25-26 April 2017*, April 2018, p. 7.

Table 4.1: **Changes in local generation and interconnector flows as a result of counteraction instructions on 25-26 April 2017**

| | QUEENS-LAND | NEW SOUTH WALES | VICTORIA | SOUTH AUSTRALIA | TASMANIA |
|---|---|---|---|---|---|
| Without direction (MWh) | 210,823 | 199,451 | 163,960 | 38,405 | 22,100 |
| Actual (MWh) | 210,516 | 198,082 | 164,872 | 37,833 +1,423 (directed energy) | 22,145 |
| Change in generation (MWh) | -305 | -1,368 | +912 | +851 | +45 |
| Estimated change in interconnector flow (MWh) | 37 less to New South Wales (Terranora) | 257 less to New South Wales (QNI) | 1,775 more to New South Wales (VIC-NSW) | 740 more to Victoria (Heywood) 195 more to Victoria (Murraylink) | 45 less to Tasmania (Basslink) |

Source: AEMO, NEM Event - Direction 25-26 April 2017, April 2018. Intervention pricing methodology available at: https://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Dispatch/Policy_and_Process/2019/Intervention-Pricing-Methodology.pdf

### 4.1.3 Issue: participants being paid twice for same energy

The Commission considers that the current requirement to minimise the number of affected participants may inadvertently result in market participants being paid twice for the same energy, a point noted in the ERM submission to the interventions investigation.[84] This scenario is also acknowledged by AEMO in its rule change request. It notes that, "when a counteraction is issued to a unit in the same portfolio as a directed unit, the participant can receive compensation as a directed participant and as an affected participant."[85]

An example of this can be seen in the directions and counteraction instructions issued to Pelican Point in February and March 2017. In both cases, directions were issued to Pelican Point gas turbine (GT)12 to synchronise and dispatch at its minimum load. Counteraction instructions were then issued to two other units at Pelican Point (GT11 and ST18) to counter

84 ERM, submission to April 2019 consultation paper.

85 AEMO, *Removal of obligation to counteract during intervention*, rule change request, November 2019, p. 3.

the effect of the direction to GT12.[86] This would have resulted in payment for the output from GT12 at the 90th percentile price in accordance with clause 3.15.7 of the NER. Pelican Point would also have received compensation as an affected participant based on the difference between the dispatch targets of GT11 and ST18 as between the dispatch run and intervention pricing runs (per clause 3.12.2 of the NER).

## 4.2 Stakeholder views in response to the April 2019 consultation paper

The April 2019 consultation paper for the *Investigation into intervention mechanisms and system strength in the NEM* considered whether the counteraction requirement should remain or whether it is preferable to allow NEMDE to optimise dispatch at least cost.

A number of stakeholders commented on this issue. ENGIE suggested that counteractions add little value and can concentrate the effect of the direction on one participant or on a shrinking pool of generators (given that AEMO is not able to counteract on wind and only issues counteraction instructions to scheduled generators). ENGIE considered that this can increase the burden of interventions on those participants to whom AEMO issues counteraction instructions.[87] Similarly, Powershop suggested that it is prudent for NEMDE to optimise dispatch at least cost, rather than use counteractions.[88]

TasNetworks supported the use of counteractions to the extent that the number of participants affected by the intervention is minimised but recommended that counteractions be supplemented with a least-cost analysis to ensure economic impacts from interventions are minimised.[89]

ERM supported the retention of counteractions as a means to reduce distortionary impacts.[90] ERM suggested that AEMO should consider automating the counteractions process where possible, an issue which was being considered by the Intervention Pricing Working Group .[91] ERM also noted that, where counteraction instructions are issued to generating units in the same generation portfolio as the directed units (a practice that AEMO uses where possible to comply with the requirement to minimise the number of affected participants), this can result in a single participant receiving compensation as both a directed participant and an affected participant — effectively being paid twice for the same energy output.[92]

In its submission to the April 2019 consultation paper, AEMO considered that counteractions should not be retained. It noted that the obligation to counteract in clause 3.8.1(b)(11) may conflict with the requirement in clause 4.8.9(b)(1) to minimise the cost of directions.[93] AEMO

86 AEMO, *NEM Event - Direction to South Australia Generator - 9 February 2017*, July 2017 and AEMO, *NEM Event - Direction to South Australia Generator - 1 March 2017*, January 2018.

87 ENGIE, submission to April 2019 consultation paper, p. 7. The Commission recognises, however, that where counteraction instructions are issued to a participant, they become eligible for affected participant compensation.

88 Powershop, submission to April 2019 consultation paper, p. 3.

89 TasNetworks, submission to April 2019 consultation paper, p. 4.

90 ERM, submission to April 2019 consultation paper, pp. 4-5.

91 AEMO established the Intervention Pricing Working Group in 2017 to examine issues associated with intervention pricing and to make recommendations for reform. For further information, see https://aemo.com.au/en/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/intervention-pricing-working-group

92 ERM, submission to April 2019 consultation paper, p. 5.

93 AEMO, submission to April 2019 consultation paper.

noted that counteractions are not currently used in connection with South Australia system strength directions but if they were, they would likely result in output from South Australian wind generators being reduced and thermal output from Victorian generators increasing, resulting in higher prices. AEMO also notes that counteractions are difficult to predict.

Stakeholder views in response to the April 2019 consultation paper are summarised in the table below.

**Table 4.2: Stakeholder views on counteractions**

| APPROACH | STAKEHOLDERS |
|---|---|
| Retain counteractions | TasNetworks, ERM (2) |
| Remove counteractions | AEMO, Powershop, ENGIE (3) |

Source: AEMC analysis

In its rule change request, AEMO reiterates these views, stating:[94]

> Counteraction is seldom practicable during most AEMO intervention events, and when counteraction has been deployed, it is questionable whether the number of affected participants and impact on interconnector flows was materially reduced.
>
> It can be safely inferred that the intention of counteraction was to minimise disruption to the market. However, minimising disruption, even if it can be achieved, is not the same as minimising costs...
>
> The complex and interconnected nature of the NEM make the consequences of counteraction impossible to predict. The cost of the dispatch solution associated with counteraction may be higher than the cost of the dispatch solution without counteraction, and there is no way of telling beforehand.

AEMO agreed with the conclusion reached by the Commission in the *Interventions investigation final report* — namely, that the objective of minimising cost is more important than the objective of minimising the number of affected participants and the impact on interconnector flows. On this basis, AEMO requests that the counteraction obligation be removed from the NER.

AEMO also notes the point made in the *Interventions investigation final report* that the counteraction obligation may result in a participant receiving compensation as both a directed participant and an affected participant.[95] As the Commission noted in the *Interventions Investigation Final Report*, this amounts to the participant being paid twice for the same amount of energy (once when it is directed to provide that energy, and once when it is directed to reduce output from another unit in order to offset the effect of the direction).[96]

94 AEMO, *Removal of obligation to counteract during intervention*, rule change request, November 2019, p. 3.
95 Ibid.
96 AEMC, *Investigation into intervention mechanisms in the NEM,* final report, 15 August 2019, p. 110.

## 4.3 Commission's analysis and determination

The Commission considers that requiring AEMO to manually adjust dispatch targets in order to limit the number of affected participants and confine the impact of an intervention to a single region can increase costs compared with the alternative of allowing NEMDE to optimise targets automatically (at least cost) in the wake of an intervention event. In this way, the counteraction requirement undermines the cost minimisation objective discussed above. The Commission has determined that cost minimisation is a more important objective than minimising the number of affected participants and impact on interconnector flows.

Accordingly, the draft rule:

- deletes clause 4.8.9(h)(3) and clause 3.8.1(b)(11) from the NER, thereby removing the obligation on AEMO to use counteractions in order to minimise the impact of an AEMO intervention event on the number of affected participants and the impact on interconnector flows.

### 4.3.1 Rationale for decision

The Commission considers that removing the counteraction requirement is consistent with the principles set out in section 2.3 and with the NEO.

**Efficiency**

Having regard for the principles set out in the assessment framework, the Commission considers that the proposed approach is efficient as it will remove the potential for more costly dispatch outcomes to occur as a result of manual changes being made to dispatch targets in order to confine the impact of an intervention to a single participant or region. The removal of the counteraction requirement will allow NEMDE to optimise at least cost, thus reducing costs to consumers, particularly where the use of counteractions results in unexpected outcomes and high prices. The Commission considers that operational and investment signals are best preserved by allowing the market to operate as normal.

**Transparency and predictability**

In relation to transparency and predictability, the Commission considers that removing the counteraction requirement will improve transparency and predictability by removing a manual process with unpredictable outcomes and instead allowing NEMDE to optimise the value of trade in accordance with clause 3.8.1(a).

In relation to directions, AEMO notes that it rarely uses counteractions in connection with directions such as those issued in South Australia to maintain system strength (which account for the great majority of directions issued in the last ten years). This is because conditions rarely allow for counteractions to be used (as synchronous generators are typically operating at minimum load and therefore cannot be constrained down to offset the impact of system strength directions to other generating units in the region). Given AEMO's approach to date, the removal of the counteraction requirement in relation to both AEMO intervention events and instructions is likely to improve transparency and predictability in the NEM.

The Commission also notes that clause 4.8.9(h) provides that if AEMO issues a direction or instruction, it may, to give effect to the direction or instruction, select a market participant/s to become affected participant/s to implement clause 3.8.1(b)(11). This seems to indicate that counteractions could be used in connection with clause 4.8.9 instructions. However, this is not consistent with the reference to clause 3.8.1(b)(11) which refers to AEMO intervention events (meaning RERT and directions, but not instructions). As such, it is not clear what, if any purpose this provision serves in relation to instructions. Regardless, AEMO advises that it does not use counteractions in connection with clause 4.8.9 instructions.

### Risk allocation

In relation to risk allocation, the Commission considers it preferable to remove rather than retain the counteraction requirement, thereby allowing the market to operate as it otherwise would and removing the risk of unintended outcomes. Participants are not able to manage the risk created by manual changes being made to dispatch targets, whereas the normal function of the market is well understood and relatively predictable.

The Commission notes that removing the counteraction requirement will reduce but not remove the risk that a single participant may receive compensation in its capacity as both a directed participant and an affected participant. This is because NEMDE may, when it optimises dispatch targets at least cost in the wake of an intervention, reduce the output of a unit which is owned by a directed participant if that unit is the marginal generator operating at the time, and reducing its output constitutes the least cost means of rebalancing supply and demand in the wake of an intervention. In such cases, affected participant compensation may be paid to a participant which is also a directed participant, but this will only occur if that outcome constitutes the least cost outcome in accordance with the objective function of NEMDE.[97]

AEMO also advises that it does not use counteractions in connection with RERT activations as this is not practicable.

### Consistency

In relation to consistency, the Commission considers that removing the counteraction requirement will increase consistency, enabling the market to operate as normally as possible in the event that AEMO activates the RERT or issues a direction.

97 The objective function of NEMDE is to maximise the value of trade in accordance with clause 3.8.1(a) of the NER. Affected participant compensation is now only payable in connection with intervention events which trigger intervention pricing. In December 2019, the Commission determined that affected participant compensation should only be payable in connection with intervention events that trigger the use of intervention pricing. Affected participant compensation is no longer payable in connection with directions such as the system strength directions being issued in South Australia. See AEMC, *Application of compensation in relation to AEMO interventions*, final determination, 19 December 2019.

# 5 AFFECTED PARTICIPANT COMPENSATION COST RECOVERY FOR RERT ACTIVATION

This chapter examines:

- the gap in the NER relating to cost recovery for affected participant compensation following activation of the RERT, and issues arising
- stakeholder views in response to the April 2019 consultation paper
- the Commission's analysis and determination.

## 5.1 Background and issues arising

When AEMO issues a direction, compensation is payable to both directed participants (those directed to provide services) and affected participants. When AEMO activates the RERT, compensation is payable only to affected participants. There are no directed participants when the RERT is activated: rather, services are provided by out-of-market providers under contract to AEMO.

As noted previously, affected participants are those parties (being scheduled generators or scheduled network service providers) whose dispatch quantities have been affected as a result of an AEMO intervention event (defined as activation of the RERT or issuance of a direction). The definition of affected participant in Chapter 10 of the NER also includes "eligible persons", being settlement residue distribution (SRD) unit holders who are entitled to receive an amount from AEMO where there has been a change in flow of a directional interconnector.[98] Compensation is also payable to market customers with respect to scheduled loads which are dispatched differently due to an intervention.[99] This compensation is calculated in a similar manner to the calculation of affected participant compensation, although such parties are not defined as "affected participants".

Such parties are entitled to compensation under clause 3.12.2(a)(1) of the NER if they are dispatched differently as a result of an AEMO intervention event.[100] Compensation for scheduled loads is calculated under clause 3.12.2(a)(2) of the NER. In this determination, unless otherwise specified, the term "affected participants" is used to encompass both affected participants as defined in the NER and market customers with scheduled load eligible for compensation under clause 3.12.2.

AEMO recovers the cost of directions-related compensation payments (i.e. compensation paid to both directed and affected participants) via clause 3.15.8 of the NER. Costs for energy-related directions, including the cost of affected participant compensation, are recovered

98 SRD is shorthand for settlements residue distribution agreements. A SRD unit is defined in chapter 10 of the NER as "a unit that represents a right for an eligible person to receive a portion of the net settlements residue under clause 3.6.5 allocated to a directional interconnector for the period specified in a SRD agreement entered into between that eligible person and AEMO in respect of that right". These units are auctioned off by AEMO as part of the process of managing inter regional settlement residues.

99 Clause 3.12.2(a)(2) of the NER.

100 Parties are subject to a threshold of $5,000 per intervention event, see AEMC, *Threshold for participant compensation following market intervention*, rule determination, 19 December 2019.

from market customers in the region which benefited from the direction.[101] These costs are apportioned by reference to the energy consumption of each market customer during the trading intervals in which the direction was in effect.[102] However, there is no equivalent provision in relation to recovering the cost of affected participant compensation payments associated with activation of the RERT.

Clause 3.15.9(b) requires AEMO to include in participants' statements the amounts payable by AEMO under reserve contracts (i.e. RERT contract costs) as well as any amounts determined as payable by an independent expert under clause 3.12.3. That clause deals with affected participant claims to have their compensation entitlement reviewed. However, there is no reference in clause 3.15.9(b) to the initial calculation of affected participant compensation (i.e. the calculation that happens in accordance with clause 3.12.2 before compensation is reviewed by an independent expert under clause 3.12.3), rendering the clause unclear with regard to affected participant compensation in the event of emergency reserves being activated under the RERT. The rules are also silent on how affected participant compensation costs following RERT activation should be apportioned between regions or participants.

AEMO has utilised clause 3.15.9 of the NER as guidance on the recovery of the cost of affected participant compensation following RERT activations in a manner consistent with the approach to apportioning and recovering contractual costs associated with RERT. That is, AEMO recovers affected participant compensation costs following RERT activation from market customers in the region in which the RERT was activated in proportion to the energy consumed in a trading interval by each customer.[103]

The Commission notes that, in May 2019, it made changes to enhance the RERT arrangements, with these changes coming into effect on 26 March 2020.[104] Among other things, the final rule changed the way AEMO recovers contractual costs associated with RERT activations.

Prior to March 2020, recovery of costs associated with RERT was recovered from market customers as a share of consumption between 8am and 8pm on business days for the relevant billing week.[105] The rules now require AEMO to recover costs associated with the direct and immediate activation of RERT resources (e.g. 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 RERT was used.

This change was made on the basis that, when prices reflect marginal costs, consumers have an incentive to minimise their consumption of energy at times when the RERT is required.[106]

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101 Based on the regional benefit test; Clause 3.15.8(b1) of the NER.

102 See clause 3.15.8(b) of the NER. Costs for ancillary services directions and "other services" directions (compensated under clause 3.15.7A) are recovered from market customers, generators and small generation aggregators: see clause 3.15.8(e) and (g).

103 AEMO, *RERT cost recovery for Affected Participants*, rule change request, 19 September 2019, p. 2.

104 See changes to rule 3.20 of the NER, AEMC, *Enhancement to the Reliability and Emergency Reserve Trader*, Rule determination, 2 May 2019, p. xxi.

105 ibid, p. xxi.

106 Ibid, p. 190.

## 5.2 Stakeholder views and the *Interventions investigation* recommendation

The April 2019 consultation paper for the *Investigation into intervention mechanisms and system strength in the NEM* asked whether the NER should clarify the basis on which the cost of affected participant compensation should be recovered following activation of the RERT.[107]

Only one stakeholder, TasNetworks, responded to this question. It expressed support for amending the NER to provide a clear basis for recovering the cost of affected participant compensation following a RERT activation.[108]

In the *Interventions investigation final report*, the Commission recommended that AEMO submit a rule change request to provide a clear basis on which to recover affected participant compensation costs due to a RERT activation.[109] It noted that a change to the NER to rectify the current gap would not result in an increase in compensation costs passed through to consumers. It would simply formalise the approach that AEMO had adopted to date to deal with this issue.[110] This issue was also discussed by the AEMO-established IPWG which agreed that a rule change request should be submitted to rectify this gap in the rules.[111]

On 19 September 2019, AEMO submitted a rule change request to clarify the basis for recovering and apportioning the cost of affected participant compensation payable in connection with activation of the RERT. AEMO also seeks amendments to the NER to make explicit provision for the apportionment and recovery of such costs following RERT activations.

The rule change request notes that the costs to AEMO of contracting for the provision of the RERT are recovered from market customers in accordance with clause 3.15.9 of the NER. The clause includes detailed provisions for calculating each market customer's share of the contractual costs incurred by AEMO in connection with RERT activations.[112]

AEMO did not include specific drafting in its rule change request but proposes that clause 3.15.9 be amended to make clear that affected participant compensation costs following RERT activation will be recovered from market customers in the region in which the RERT was activated in proportion to the energy consumed in a trading interval.

While the rule change request referred only to affected participants, AEMO's subsequent letter to the Commission clarified that the scope of the rule change request is intended to encompass both affected participants (as defined in chapter 10 of the NER) and market customers with scheduled load where they are eligible for compensation under clause 3.12.2(a)(2).[113]

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107 AEMC, *Investigation into intervention mechanisms and system strength in the NEM,* consultation paper, p. 97.

108 TasNetworks, submission to April 2019 consultation paper, p. 5.

109 As in this determination, the IIFR referred to affected participants in a general sense, encompassing both affected participants as defined in the NER and market customers with scheduled loads eligible for compensation under clause 3.12.2.

110 AEMC, *Investigation into intervention mechanisms in the NEM,* final report, August 2019, p. 88.

111 Ibid, p. 87.

112 AEMO, *RERT cost recovery for Affected Participants*, rule change request, 19 September 2019, p. 2.

113 AEMO, Electricity Rule Proposal – clarification of recovering affected participant compensation for RERT activation, letter, 9 April 2020.

## 5.3 Commission's analysis and determination

The Commission considers that there is an omission in clause 3.15.9 that should be rectified. While the clause refers to including in participants' statements those amounts determined as payable under clause 3.12.3 (relating to claims by affected participants and market customers with scheduled loads), it does not refer to the initial calculation of compensation (under clause 3.12.2) for affected participants and market customers with scheduled loads. Nor does clause 3.15.9 make clear how such compensation costs should be apportioned between regions and participants and recovered from market customers.

The Commission has determined that it is appropriate to resolve this uncertainty and provide a clear basis on which to recover and apportion the cost of compensating both affected participants and market customers with scheduled loads which are dispatched differently due to the activation of the RERT.

The Commission does not consider that the implementation of the changes will lead to additional costs to AEMO or market participants, noting that AEMO is already recovering the cost of affected participant compensation consistent with its approach to recovering other RERT costs.

Accordingly, the draft rule amends subparagraphs (b), (d) and (e) of clause 3.15.9 of the NER so that:

- costs of compensating participants affected by a RERT activation will be recovered from market customers in the region in which the RERT was exercised
- costs within a region will be allocated to market customers in proportion to the energy consumed in a trading interval during which the RERT was activated.

Specifically, the amendments made to:

- clause 3.15.9(b) require AEMO to, in accordance with the intervention settlement timetable, calculate amounts:
  - payable by AEMO to affected participants and market customers in respect of the exercise of RERT during the relevant billing period
  - receivable by AEMO from affected participants and market customers under clause 3.12.2 or clause 3.12.3, in respect of the exercise of RERT during the relevant billing period.
- clause 3.15.9(d) requires AEMO to recover the net cost of compensation payable to affected participants and market customers under clause 3.12.2 or 3.12.3 (i.e. compensation paid out net of compensation received) in respect of the exercise of RERT, if:
  - without the exercise of RERT a region would otherwise, in AEMO's reasonable opinion, fail to meet the minimum power system security standards or the reliability standard
  - a region requires a level of power system reliability or reserves which, in AEMO's reasonable opinion, exceeds the level required to meet the reliability standard

- clause 3.15.9(e) specifies the method for recovering from market customers the costs associated with the RERT, including contractual costs to RERT providers and the net cost of affected participant compensation (i.e. payments to affected participants net of payments received from affected participants).

Under clause 3.15.9(e), the costs directly associated with activation of the RERT (including usage or activation charges and net affected participant compensation costs) are to be recovered from market customers in the region in which the RERT was activated, proportional to their consumption of energy in each of the trading intervals in which the RERT is activated. Other costs (such as availability charges, pre-activation charges and general administrative costs associated with the RERT) are recovered from customers based on consumption over the billing period in which payments were made. This approach is consistent with the rationale for changes made to the cost recovery mechanism by the Commission's final *Enhancement to the RERT* determination and rule.[114] As noted above, the cost recovery approach adopted is consistent with the principle that, when prices reflect marginal costs, consumers have an incentive to minimise their consumption of energy at times when the RERT is required.

### 5.3.1 Rationale for decision

Having regard for the principles set out in the assessment framework, the Commission considers the changes will contribute to the achievement of the NEO.

#### Transparency and predictability

Changes to clause 3.15.9 of the NER will increase transparency and predictability, thereby supporting the efficient administration of settlements in the NEM.

The Commission considers that AEMO, affected participants and market customers with scheduled loads will benefit from improved transparency and predictability from the clarification of clause 3.15.9. The amendments provide greater certainty by formalising the basis on which to apportion and recover relevant costs when the RERT is activated.

#### Consistency

The rule change is also necessary to comply with the principle of the NEL and the NER that every obligation for AEMO to pay must have a corresponding right of recovery.[115] For example, clause 3.15.8(c) of the NER specifically states that the amount calculated to fund compensation for directions is an amount payable by the market customer to AEMO. The clarification in clause 3.15.9 will ensure that AEMO's payment liability is limited by its ability to recover costs, thus ensuring financial flows within the market are aligned with the intention of the rules and reducing risks.

114 AEMC, Enhancement to the Reliability and Emergency Reserve Trader, available at: https://www.aemc.gov.au/rule-changes/enhancement-reliability-and-emergency-reserve-trader.

115 Section 52 of the NEL states that AEMO may determine fees and charges for services provided by it under this Law or the Rules and that it may charge for and recover the fees and charges in accordance with this Law and the Rules.

The Commission also notes that changes to clause 3.15.9(e) enable AEMO to recover the cost of affected participant compensation in a way that is consistent with *Enhancement to the RERT* changes governing AEMO's recovery of contractual costs associated with RERT.

# ABBREVIATIONS

| | |
|---|---|
| AEMC | Australian Energy Market Commission |
| AEMO | Australian Energy Market Operator |
| AER | Australian Energy Regulator |
| Commission | See AEMC |
| CPT | Cumulative price threshold |
| FCAS | Frequency control ancillary service/s |
| IPWG | Intervention pricing working group |
| MPC | Market price cap |
| NEL | National Electricity Law |
| NEM | National Electricity Market |
| NEMDE | National electricity market dispatch engine |
| NEO | National electricity objective |
| NERL | National Energy Retail Law |
| NERO | National energy retail objective |
| RERT | Reliability and emergency reserve trader |
| SRD | Settlement residue distribution |

# A 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 and draft rule.

## A.1 Draft rule determination

In accordance with s. 99 of the NEL the Commission has made this draft rule determination in relation to the rules proposed by AEMO.

The Commission's reasons for making this draft rule determination are set out in section 2.4.

A copy of the draft rule is attached to and published with this draft rule determination. Its key features are described in section 2.1.

## A.2 Power to make the rule

The Commission is satisfied that the draft rule falls within the subject matter about which the Commission may make rules. The draft rule falls within s. 34 of the NEL as it relates to the operation of the national electricity market and the activities of persons (including Registered participants) participating in the national electricity market or involved in the operation of the national electricity system.[116]

## A.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 in response to the April 2019 consultation paper for the *Investigation into intervention mechanisms and system strength in the NEM*
- the Commission's analysis as to the ways in which the draft rule will or is likely to, contribute to the NEO.

There is no relevant Ministerial Council on Energy (MCE) statement of policy principles for this rule change request.[117]

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.[118] The draft rule is compatible with AEMO's declared network functions because it does not regulate AEMO's declared network functions.

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116 Section 34(1)(a)(i) NEL.

117 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.

118 Section 91(8) of the NEL.

## A.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 Commission's draft rule removes clauses 3.12A.4, 3.12A.7(e) and 3.12A.7(i1) from the NER. These clauses are currently classified as civil penalty provisions under Schedule 1 of the National Electricity (South Australia) Regulations, but will cease to do so if the draft rule is made as final.

Subject to the clauses outlined above, the draft rule does not amend any other 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.

## A.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.