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Australian Energy Market Commission

# **RULE DETERMINATION**

# NATIONAL ELECTRICITY AMENDMENT (SETTLEMENT UNDER LOW OPERATIONAL DEMAND) RULE 2021

#### PROPONENT

Infigen Energy

7 OCTOBER 2021

## **INQUIRIES**

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# ABOUT THE AEMC

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

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Australian Energy Market Commission **Rule determination** Settlement under low operational demand 7 October 2021

# SUMMARY

- 1 On 15 February 2021, Infigen Energy (Infigen) submitted its *Settlement under low operational demand* rule change request seeking to amend the formulas used to recover nonenergy costs from market customers. Infigen proposed to solve the issues that surround settlement of the national electricity market (NEM) and the distribution of non-energy costs during periods of low operational demand.
- 2 The Australian Energy Market Commission (AEMC or Commission) has decided to make a more preferable rule to amend the definition of `customer energy,' so that the Australian Electricity Market Operator (AEMO) will be able to implement the flooring mechanism proposed by Infigen.
- 3 The Commission has decided to make the more preferable rule because it will remove any ambiguity in the National Electricity Rules (NER) that would prevent AEMO taking measures to introduce the flooring mechanism. This change is required to prevent market customers from being paid for having net negative loads, which AEMO considers should not result in payments to market customers.<sup>1</sup>
- 4 The Commission notes that this is a change from its draft determination, where it proposed not to make a rule. That draft decision, based on information available at the time in relation to the flooring mechanism, was that the final determination for AEMO's *NEM settlement under low, zero and negative demand conditions* urgent rule change provided an adequate interim response to the issues raised in the Infigen rule change.

#### Background

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In February 2021, the Commission received two rule change requests relating to the formulas used to recover non-energy costs from market customers in rule 3.15:

- On 8 February 2021, AEMO submitted the NEM settlement under low, zero and negative demand conditions rule change to amend parts of rule 3.15 of the NER to allow for a substitution of adjusted gross energy (AGE) values (the substitution method), when necessary, to create numerators and denominators for non-energy cost allocation formulas that will work in AEMO's settlement systems. The Commission adopted an expedited process in considering this rule change request as it considered that the proposed rule was an urgent rule.
- On 15 February 2021, Infigen submitted its rule change request to address the issues it identified with the current formulas in rule 3.15. In its rule change Infigen proposed a flooring mechanism where any market customers that are net-exporting would have their AGE values floored to zero, which would remove the possibility for a market customer to receive a payment for non-energy costs. However, Infigen also noted in its rule change request that there was an alternative solution to its proposed flooring mechanism. This alternative solution was to raise the threshold of when AEMO's substitution method was

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<sup>1</sup> AEMO, Submission to the draft determination, 29 July 2021, pp. 2-3.

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triggered from 1 MWh to 150 MWh which would address the settlement and inequitable payment issues to a large extent.

- 6 When the AEMC commenced the two rule changes, AEMO had advised that it was unable to implement the flooring mechanism ahead of the 1 September 2021 target date for a solution. On that basis the Commission did not seek stakeholder input on the flooring mechanism and initially did not consider the mechanism as a potential solution. Instead it sought comment on the substitution method and considered the merits of the 150 MWh and 1 MWh substitution solutions.
- 7 During its original assessment the Commission considered that the flooring mechanism and increasing the trigger for the substitution method to 150 MWh as relatively similar in that each address the competitive equity issues raised by Infigen. Both were considered interim measures until a more permanent solution was progressed, potentially through the *Integrating energy storage systems into the NEM (Integrating storage)* rule change.
- 8 On 29 July 2021, AEMO provided new information to the Commission in its submission to the draft determination. In its submission, AEMO noted that it now considered that non-energy costs formulas did not allow for payments to be made to market customers for having net negative loads.<sup>2</sup> It also noted that, given the increase in the risk of negative payments, the flooring mechanism was needed to address the equity issues raised by Infigen. On this basis the Commission chose to extend the time frame for the final determination. On 5 August 2021, it released a Discussion Paper seeking input on the flooring mechanism and noting that the 150 MWh substitution method was due to be in place from 1 September 2021.

#### The final determination

- 9 The Commission has made a more preferable rule to change the definition of 'customer energy' to allow AEMO to implement the flooring mechanism.
- 10 The rule is an interim solution to address the urgent payment and settlement risks that can take place when net demand is low until a more permanent solution is progressed, potentially through the *Integrating storage* rule change.
- 11 In the Commission's view this is necessary because:
  - it does not consider non-energy cost payments should be made to market customers with net negative loads as this results in an over-recovery of non-energy costs and an inequitable incidence of those costs between market customers
  - the flooring mechanism is a more efficient mechanism to remove the risk of payments being made to market customers for having net negative loads
  - the risk of market customers receiving payments has likely increased since the original rule change request.

Having regard to the issues raised in the rule change and during consultation, the Commission is satisfied that the final rule will or is likely to contribute to the achievement of the national electricity objective (NEO) for the following reasons, it:

<sup>2</sup> AEMO, Submission to the draft determination, 29 July 2021, pp. 2-3.

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- promotes the efficient operation of electricity services by removing the risk of market customers receiving payments for having net negative loads, given the Commission considers this would result in over-recovery of non-energy costs and an inequitable distribution of those costs
- promotes more efficient pricing in the supply of electricity, because when the flooring mechanism is combined with a threshold for substitution of 150 MWh, it also reduces the disproportionate payment risks noted by Infigen and the NEM settlement risks identified in the AEMO rule change
- encourages the efficient use of electricity services by removing ambiguity about the operation of the NER for both stakeholders and other market bodies, allowing these parties to participate in the NEM confidently, understanding their rights and obligations, particularly with respect to the flooring mechanism
- provides an efficient and proportionate risk management tool that can be implemented promptly by AEMO and it will allow market customers and AEMO to continue to operate with certainty.
- The Commission also considered amending the substitution methodology in the AEMO rule change to include recoveries from the Reliability and emergency reserve trader (RERT) but decided against making this change, because it is highly unlikely RERT would be used in low demand conditions.

#### 14 The rule will commence on 10 October 2021.

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Infigen's example of settlement distortion

# 1 INFIGEN'S RULE CHANGE REQUEST

## 1.1 The rule change request

On 15 February 2021, Infigen submitted a rule change request to the AEMC to amend the NER. The rule change proposal sought to amend the NER to change the formulas that AEMO uses to allocate non-energy costs to market customers in the NEM.

This chapter discusses:

- non-energy costs
- issues raised in the rule change request
- rationale for the rule change request
- other relevant rules changes
- the rule making process
- consultation leading to this final determination
- AEMO's implementation of the flooring mechanism ahead of the final determination.

#### 1.2 What are non-energy costs?

In the NEM, non-energy costs generally refer to payments for market and non-market ancillary services, compensation for directions, market suspension or administered pricing, and reserve contract payments.<sup>3</sup>

Non-energy costs are recovered by AEMO from market participants based on their registration category and the AGE from each participant over a trading interval.<sup>4</sup>

The formulas used to allocate costs rely on numerators and denominators that include the AGE. The AGE for each market customer is defined under clause 3.15.4 and 3.15.5 of the NER as the flow of electricity at a participant's connection point(s), in the relevant category for recovery either as load or generation.<sup>5</sup> Infigen describes a market customer's AGE as "the net consumption of that market customer for the relevant trading interval".<sup>6</sup> The denominator, being the sum of all AGE, is effectively the regional operational demand.

For this rule change, the lower contingency Frequency Control Ancillary Services (FCAS)<sup>7</sup> costs are particularly relevant as they are only recovered from market customers within a region.<sup>8</sup>

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<sup>3</sup> AEMO, NEM settlement under low, zero and negative demand conditions, rule change request. p. 3.

<sup>4</sup> AEMO, NEM settlement under low, zero and negative demand conditions, rule change request. p. 3.

<sup>5</sup> see clauses 3.15.4 and 3.15.5 of the NER.

<sup>6</sup> AEMO, NEM settlement under low, zero and negative demand, rule change request, p. 4. Net consumption being the market customer's energy at each connection point which the market customer is financially responsible.

<sup>7</sup> These consist of the fast lower (six second), slow lower (60 seconds) and delayed lower (five minute) FCAS services.

<sup>8</sup> AEMO, Settlements guide to ancillary services payment and recovery, February 2020, p. 9.

# 1.3 Issue the rule change request seeks to address and current arrangements

Historically, market loads were almost always net consumers of energy. Therefore, the NER generally allocates non-energy costs between market customers according to the proportion of *net* energy used by each customer.<sup>9</sup> However, the increasing penetration of rooftop solar has meant that these loads can now also be generators. This can have consequences that were not previously foreseen, particularly for the settlement of non-energy costs, which are usually calculated based on *net* energy flows.

The current cost recovery formulas in the NER do not account for significant bi-directional resources, which can lower a market customer's AGE to the point where it becomes a net exporter of electricity. This can allow for the potential over-procurement of costs from market customers with a positive load, and market customers with a negative load can receive a negative settlement, i.e. a payment. An example of this settlement distortion was provided by Infigen in its rule change request, as shown in Figure 1.1 below.

#### Example: Lower Contingency cost (\$3m) to be recovered from three local loads/participants Costs are allocated by participant load divided by operational oad A pays Load B pays Load C pays demand (sum of load 100/300 x \$3m = **\$1m** (11) (11) 100/300 x \$3m 100/300 x \$3m = \$1m = \$1m Each load pays 1/3 share - as expected Operational demand: 100+100+100 = 300 MW Load 3 has embedded solar (perhaps a residential area) that reduces its **net consumption** to zero. Load A pays: 100/200 x \$3m = **\$1.5m** Load B pays: 100/200 x \$3m = **\$1.5m** Load C pays: 0/200 x \$3m = **\$0m** (11) (11) The remaining loads split the cost - \$1.5m each - Load C avoids all costs. Acceptable outcome pending review of non-energy cost Operational demand: recovery. 100+100+0 = 200 MW If Load C is negative, the settlement maths pays Load C (yet they have not reduced the need for the service) Load A pays: 100/100 x \$3m = **\$3m** Load B pays: 100/100 x \$3m Load C "pays": (-100)/100 x \$3m = -\$3m (receives \$3m, or zero if = \$3m AEMO recovers 3+3-3 = 3m, but there are wealth transfers. Load A & B both pay 100% of the service cost. Operational demand: 100+100+(-100) = 100 MW paymer be >=0) Alternatively, if costs must be positive, AEMO may recover \$6m, with a net surplus of \$3m. As Operational Demand goes to zero, the **equation breaks down** Load A pays: Load B pays: Load C "pays": (-199)/1 x \$3m As demand approaches ~zero, wealth transfers can become huge 100/1 x \$3m 100/1 x \$3m = \$300m \$597m Implications for risk management, prudentials, cash flows & equity Operational demand: 100+100+(-199) = 1 MW Vs actual cost of just \$3m

#### Figure 1.1: Infigen's example of settlement distortion

Source: Infigen, Settlement under low operational demand, rule change request, 2021.

#### **1.3.1** Solution proposed in the rule change request

Low operational demand impacts the formulas used to allocate non-energy costs under rule 3.15 of the NER. In order to solve the issues that can result from the current formula, Infigen proposed a rule change (the proposed rule) to amend part of rule 3.15 of the NER to set a

<sup>9</sup> See rule 3.15 of the NER.

lower limit of zero on market customer AGE values within the non-energy cost recovery formulas.  $^{\rm 10}$ 

This 'flooring mechanism' would remove the possibility of market customers having negative AGEs and help allocate costs more fairly between participants. Unlike the current formulas, the flooring mechanism would also prevent AEMO from over-procuring non-energy costs and it would limit the recovery of costs to the total cost of the service.

According to Infigen, the flooring mechanism would have the following impacts on nonenergy cost recovery:

- A market customer cannot have a negative AGE for a trading interval. This would prevent that customer receiving a payment for their negative net flows, in a trading interval. It would also prevent customers with net negative flows from paying any cost recovery.<sup>11</sup> This has the added benefit of limiting the total cost recoverable to the total service cost.
- The total regional operational demand can no longer fall below 0 MWh. This is because all market customers would have their minimum AGE set to zero and therefore the sum of these values (which is the denominator used in the cost recovery formula) can no longer be a number less than zero.<sup>12</sup>
- However, if all market customers within a region had a load that is net negative or zero for a trading interval, the equation would not solve and AEMO would not be able to settle the NEM.<sup>13</sup>

Infigen noted that these issues are particularly relevant to South Australia. However, as settlement is a NEM-wide process, the rule change would solve these issues if they were to arise in any other jurisdiction. Infigen noted that the issues are unhedgeable costs and therefore there are limited options outside of a rule change to mitigate a participant's risk.<sup>14</sup>

Infigen also noted in its rule change request that the Commission is considering potential longer-term solutions to the issues through the *Integrating energy storage systems into the NEM* (Integrating Storage) rule change (see section 1.6). Therefore, Infigen considers the flooring mechanism insulates market customers in the short-term, while these more fundamental reforms are being considered. <sup>15</sup>

#### 1.3.2 Alternative solutions proposed in the rule change request

Infigen outlined a number of alternative solutions if the flooring mechanism could not be implemented in a timely or cost effective way.<sup>16</sup> This included modifying the solution proposed by AEMO in the *NEM settlement under low, zero and negative demand conditions* rule change.

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<sup>10</sup> Infigen, Settlement under low operational demand, rule change request, p. 12.

<sup>11</sup> Infigen, Settlement under low operational demand, rule change request, p. 12.

<sup>12</sup> Infigen, *Settlement under low operational demand*, rule change request, p. 12.

<sup>13</sup> Infigen, *Settlement under low operational demand*, rule change request, p. 12.

<sup>14</sup> Infigen, Settlement under low operational demand, rule change request. p. 14.

<sup>15</sup> Infigen, Settlement under low operational demand, rule change request. p. 14.

<sup>16</sup> Infigen, *Settlement under low operational demand*, rule change request, p. 13.

Infigen noted that this solution was workable but acknowledged that it would have the impact of more frequent disruption to settlement, and is only preferable if Infigen's solution was unable to be implemented.

# 1.4 Rationale for the rule change request

In the rule change request Infigen considered that the continued growth of bi-directional resources in the NEM was driving lower levels of operational demand and posing significant risks to NEM settlement and the equitable distribution of non-energy costs. It considers the impact of this scenario to have significant impacts on:

- **Disruption of settlement** as operational demand falls below 1 MWh, the current NEM settlement systems will fail to calculate.
- Disruption to South Australian industry if significant non-energy costs are to be recovered during low operational demand, it would be imposed on a small subset of customers, likely large industrial customers.
- Risk of cascading defaults and disruption of the administration of the NEM if significant over-procurement was to occur, which is non-recoverable, this could lead to retailers defaulting on their settlements.
- **System security risks** the possibility of negative payments could incentivise market behaviour that has the ability to impact the security and reliability of the NEM.<sup>17</sup>

Infigen argued that its rule change request would provide market stability and enable the continued fair allocation of non-energy costs during periods of low operational demand.

## 1.5 AEMO's rule change request

On 8 February 2021, AEMO submitted the *NEM settlement under low, zero and negative demand conditions* rule change request (the AEMO rule change). This rule change was in relation to the formulas that are used to calculate how certain non-energy costs are allocated and the interaction between these formulas and the settlement of other markets within the NEM. AEMO identified that the current configuration of its settlement systems cannot function if regional demand in a trading interval, or other cost recovery period, falls below 1 MWh.<sup>18</sup>

On 17 June 2021, the Commission made a final determination on the AEMO rule change. This final determination made a more preferable rule to use the substitution method with the trigger for the threshold set at 150 MWh (substitution methodology). The Commission made this more preferable rule to address the:

- risk of the NEM being unable to settle when net regional demand is less than 1 MWh
- related risks to AEMO's prudential systems, which rely on settlement data to perform allocations
- incidence of market customers having a negative net demand

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<sup>17</sup> Infigen, Settlement under low operational demand, rule change request, p. 13.

<sup>18</sup> AEMO, NEM settlement under zero and negative demand conditions, Rule change request, February 2021, p. 8.

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 risk to market customers of paying a disproportionate amount of non-energy costs due to low net regional demand.<sup>19</sup>

# 1.6 The longer-term solution being considered in Integrating storage

The Commission released a draft determination for the Integrating storage rule change on 15 July 2021, that includes amending the framework to recover non-energy costs. This draft rule change, if made final, will mean that consumed and sent out energy will be measured separately for all market participants and not netted at the connection point.<sup>20</sup> In order to do this and correctly apportion costs, any longer-term solution will also require the implementation of the *Global settlements and market reconciliation rule change (Global settlement)* to ensure that AEMO has gross data on energy flows. Implementation of the *Global Settlement* rule change is due to go-live on 1 May 2022. If the draft determination for *Integrating storage* is made final, AEMO has advised it could be implemented on 28 April 2023.<sup>21</sup>

The Commission considers that, if made, the *Integrating Storage* rule change, may provide a permanent solution to the issues that Infigen raises. In the Integrating Storage rule change proposal, AEMO acknowledged that the existing NEM framework, processes and systems for non-energy cost recovery have been calculated on net metering data.<sup>22</sup>

# 1.7 The rule making process

On 22 April 2021, the Commission published a notice advising of its commencement of the rule making process and consultation in respect of the rule change request.<sup>23</sup> A consultation paper identifying specific issues for consultation was also published. The Commission received five submissions. Issues raised in these submissions were summarised and responded to in the draft rule determination.

The Commission considered all issues raised by stakeholders in submissions to the draft determination and the discussion paper. Issues raised in submissions and meetings are discussed and responded to throughout this final rule determination.

# 1.8 Stakeholder views and the AEMC's draft rule determination

In response to its draft determination, the Commission received submissions from AEMO and Shell Energy (Shell).

In its submission, Shell broadly supported the Commission's decision but requested that the Commission include costs for the RERT which can be dispatched for the provision of power system security services during times of low operational demand.

<sup>19</sup> The final ruling can be found on the AEMC website.

<sup>20</sup> AEMC, Integrating energy storage systems in the NEM, Information sheet: draft determination, p. 1.

<sup>21</sup> AEMC, Integrating energy storage systems in the NEM, Draft determination, 15 July 2021, p. ix.

<sup>22</sup> AEMO, Integrating energy storage systems in the NEM, rule change request, p. 1.

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

However, AEMO noted that the decision in the AEMO rule change does not directly address the potential for payments to be made to an individual market Customer with a negative net load.<sup>24</sup> It noted that the flooring mechanism proposed by Infigen was needed to address this.

It also noted that, based on its interpretation of the NER, clauses relating to non-energy cost recovery calculations, should not result in any payments to market customers given the definition of `negative number' and `payable by'.<sup>25</sup>

It considered that the flooring of market Customer energy was allowed under the existing non-energy cost provisions, but a change in the definition of 'customer energy' within the NER would remove any ambiguity.<sup>26</sup>

## 1.9 The discussion paper

In response to the new information in AEMO's submission about its ability to implement the flooring mechanism, the Commission extended the time frame for the final determination and released a discussion paper to consult with stakeholders on implementing the flooring mechanism.<sup>27</sup>

The Commission received six submissions to the discussion paper. All stakeholder submissions were supportive of the introduction of a flooring mechanism.<sup>28</sup> However, Energy Australia and SA Water raised some concerns:

- Energy Australia noted that while it supported the flooring mechanism in principle, with the substitution methodology in place, there were still questions about the need for the flooring mechanism.<sup>29</sup>
- SA Water noted that if the flooring mechanism is implemented, it considers that the 150 MWh threshold methodology should not be retained. It also noted it would need time to make system changes should the flooring mechanism be introduced.<sup>30</sup>

# 1.10 AEMO has implemented the flooring mechanism

On 17 September 2021, AEMO informed stakeholders that it intended to activate the flooring mechanism before the Commission's final determination if an FCAS cost recovery amount of \$5000 or more is to be made in a trading interval to any market customer, in the recovery of FCAS across all NEM regions. AEMO chose this threshold because it was simple and it was similar to an established threshold used for interventions payments.<sup>31</sup>

<sup>24</sup> AEMO, Submission to draft determination, 29 July 2021, p. 2.

<sup>25</sup> AEMO, Submission to draft determination, 29 July 2021, p. 2.

<sup>26</sup> AEMO, Submission to draft determination, 29 July 2021, p. 2.

<sup>27</sup> AEMC, Settlement under low operational demand, Discussion Paper, 5 August 2021, p. 6.

<sup>28</sup> Submissions to Discussion paper: EnergyAustralia, p. 2; SA Water, p. 2; Origin, P. 1; Shell, p. 1. Government of South Australia p. 1.

<sup>29</sup> EnergyAustralia, submission to directions paper, 26 August 2021, p. 2.

<sup>30</sup> SA Water, submission to directions paper, 26 August 2021, p. 2

<sup>31</sup> AEMO, Correspondence on customer flooring in non-energy recovery settlement calculations, 17 September 2021, pp. 1-2.

AEMO noted that the earliest Final Statement date that the switch could be triggered is the week beginning 11 October 2021, which it noted would cover material issues occurring prior to the effective date of the Commission's final rule.<sup>32</sup>

<sup>32</sup> AEMO, Correspondence on customer flooring in non-energy recovery settlement calculations, 17 September 2021, p. 1.

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# FINAL RULE DETERMINATION

This chapter outlines the:

- Commission's final rule determination
- differences between the draft rule and the final rule
- rule making test for changes to the NER
- more preferable rule test
- assessment framework for considering the rule change request
- Commission's consideration of the more preferable final rule against the NEO.

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

## 2.1 The Commission's final rule determination

The Commission has decided to make a more preferable final rule to prevent market customers from receiving payments for having a negative net load during a trading interval. In making this decision the Commission has considered the views of stakeholders and carried out its own analysis.

#### Key features of the more preferable rule

The Commission's more preferable final rule is published with this final determination. The key features are that the more preferable rule:

- amends the definition of 'customer energy' in clauses 3.15.6A(a0) and 3.15.8(a0) of the NER<sup>33</sup> to remove ambiguity that would prevent AEMO implementing the flooring mechanism
- does not change the substitution methodology introduced in the AEMO rule change
- does not include RERT costs in the substitution methodology because these non-energy costs are highly unlikely to be incurred during periods of minimum demand and the costs are likely to outweigh the benefits of such a change.

The Commission's reasons for making this final rule determination are set out in section 2.5.

#### Consequences of the more preferable rule

By changing the definition of 'customer energy' in the NER, the Commission has removed any ambiguity about whether the flooring mechanism can be introduced by AEMO.

The Commission notes that on 17 September 2021, prior to this final determination, AEMO notified stakeholders that it would activate the flooring mechanism in final statements for non-energy cost recovery events before the effective date of the AEMC's final rule if an FCAS cost recovery trading amount of \$5,000 or more would be payable to an individual market customer participant ID in a trading interval for all FCAS across all NEM regions.

<sup>33</sup> Clauses 3.15.6A(a0) and 3.15.8(a0) of the NER

The combination of the flooring mechanism and the substitution methodology made in the AEMO rule change, provides a comprehensive solution to the problems identified by AEMO and Infigen in their respective rule change requests. Together these rules will:

- remove the risk that market customers can receive payments for having a net negative load during a trading interval, meaning there can be no over-recovery of non-energy costs, as well as the greater market distortion that this creates and instead there is more equitable distribution of non-energy costs between market customers that are net loads
- remove the settlement risks that exist when net negative demand is less than 1 MWh in a trading interval
- substantially remove the potential for market customers with net positive regional demand to be required to pay a disproportionate amount of non-energy costs, when net regional demand is low.

The Commission's reasons for making this final rule determination are set out in section 2.5. More details of the more preferable rule are also set out in chapter 3 of this final determination. The Commission considered all issues raised by stakeholders in submissions, which are discussed and responded to throughout this final rule determination.

Further information on the legal requirements for making this final rule determination are set out in appendix A

# 2.2 Differences between the draft decision to make no rule and the final rule

In its draft determination the Commission made no rule, this was because based on the information available at the time (in particular that the flooring mechanism was not an available option), the Commission considered that the issues raised by Infigen were dealt with adequately on an interim basis through the final determination on the AEMO rule change and therefore any additional rule would not contribute to the achievement of NEO.

Shortly before the release of the Draft determination, AEMO informed the Commission that it could implement the flooring mechanism, AEMO subsequently also sought clarification because it believed that making payments to market customers was inconsistent with existing definitions under the NER. AEMO also noted that the risk of payments could also become more frequent and material, which increased the risk of payments and inequitable outcomes.<sup>34</sup>

To address these concerns the Commission has determined to amend the definition of 'customer energy' within the NER to remove any ambiguity, in relation to AEMO's ability to implement the flooring mechanism. This change is consistent with what was proposed in AEMO's submission to the draft determination and will allow AEMO to implement the solution proposed by Infigen in its rule change request, thereby addressing the issues Infigen raised regarding impacts on market customers during periods of low operational demand.<sup>35</sup>

<sup>34</sup> AEMO noted all but the clauses relating to directions compensation payments did allow for payments to be made to market customers. AEMO, *Submission to draft determination*, 29 July 2021, pp. 1 - 2.

<sup>35</sup> AEMO, Submission to draft determination, 29 July 2021, p. 2.

# 2.3 Rule making test

#### 2.3.1 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 NEO.<sup>36</sup> This is the decision-making framework that the Commission must apply.

The NEO is:37

to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:

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

The Commission has identified that the relevant aspects of the NEO are the *efficient investment in, and efficient operation of, electricity services with respect to the reliability, safety and security of the national electricity system.* 

#### 2.3.2 Making a more preferable rule

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

In this instance, the Commission has made a more preferable rule. The reasons are summarised below in section 2.5.

## 2.4 Assessment framework

In assessing the rule change request against the NEO, the Commission has considered the following principles:

- Effective and proportionate risk management: does the proposed solution enable market participants and AEMO to manage risks? This is in the long-term interests of consumers as it promotes the efficient and secure operation of the NEM, allowing stable supply of electricity and putting downward pressure on electricity prices.
- Minimising uncertainty and market changes: does the proposed solution minimise uncertainty for market participants and AEMO and promote confidence in the market? Similarly, the points above for effective and proportionate risk management are also related to the impacts of minimising uncertainty and market changes.
- **Regulatory and administrative burden**: are the costs to market participants and market bodies of implementing the solution minimised and proportional to the benefits? Regulatory and administrative burdens are passed onto consumers through inefficient

<sup>36</sup> Section 88 of the NEL.

<sup>37</sup> Section 7 of the NEL.

costs. As such it is in the interests of consumers to minimise these pass through costs where possible.

 Providing efficient market signals: does the solution provide market participants with efficient market signals to guide their decisions? Efficient market signals are required to provide the necessary incentives for the market to operate efficiently including ensuring that any distortions to incentives are minimised.

## 2.5 Summary of reasons

Having regard to the issues raised in the rule change and during consultation, the Commission is satisfied that the more preferable final rule will, or is likely to better contribute to the achievement of the NEO than the proposed rule, as it:

- promotes the efficient operation of electricity services by removing the risk of market customers receiving payments for having net negative loads, given the Commission considers this would result in over-recovery of non-energy costs and an inequitable distribution of those costs
- promotes more efficient pricing in the supply of electricity, because when the flooring mechanism is combined with a threshold for substitution of 150 MWh, it also reduces the disproportionate payment risks noted by Infigen and the NEM settlement risks identified in the AEMO rule change
- encourages the efficient use of electricity services by removing ambiguity about the operation of the NER for both stakeholders and other market bodies, allowing these parties to participate in the NEM confidently, understanding their rights and obligations, particularly with respect to the flooring mechanism
- provides an efficient and proportionate risk management tool that can be implemented promptly by AEMO and it will allow market customers and AEMO to continue to operate with certainty.

The rule is an interim low cost solution to address the payment risks and settlement risks that can take place when net demand is low, until a more permanent solution is progressed potentially through the *Integrating Storage* rule change.

3

# REMOVING AMBIGUITY AROUND THE IMPLEMENTATION OF THE FLOORING MECHANISM IN THE NER

This chapter outlines:

- Infigen's view of the flooring mechanism
- stakeholder feedback
- the Commission's analysis on implementing changes to remove ambiguity in relation to the flooring mechanism
- the Commission's conclusions

# 3.1 The proposed flooring mechanism

As explained in section 1.3, Infigen's rule change request noted that historically market loads were almost always consumers of energy. However, because of the increasing penetration of rooftop solar these loads can now also be net generators. If there are enough net generators in a NEM region then the total regional demand may also become negative.

As net regional demand gets lower, non-energy cost recovery amounts for individual customers become increasingly distorted. This is because market customers with net negative AGE values are paid for these net negative values, and the costs of these payments are recovered from market customers with positive AGEs. As the number of customers with positive AGEs becomes smaller the cost recovery falls disproportionately on these customers, at the same time costs can become disproportionately higher as there is an over-recovery to pay for both the service costs and payments to net negative loads.<sup>38</sup>

To address this, Infigen's flooring mechanism sets the lower limit for any market customers AGE values within the non-energy cost recovery formulas at zero.<sup>39</sup>

# 3.2 Stakeholder views

As discussed in section 1.8, the Commission received two submissions in response to its draft determination, however, only AEMO's submission focused on the need to introduce the flooring mechanism. The Commission then received six submissions to the discussion paper on the flooring mechanism.

#### Implementing the flooring mechanism

In its submission to the draft determination, AEMO noted two issues with the Commission's draft decision not to implement the flooring mechanism:

<sup>38</sup> Infigen, Rule change request, 15 February 2021, p. 4.

<sup>39</sup> Infigen, Rule change request, 15 February 2021, p. 12.

- 1. The flooring mechanism was needed as the substitution mechanism did not directly address the potential for significant payments to be made to market customers with negative net loads. <sup>40</sup> It also considers that the risk of these inequitable payments being made to market customers with negative net loads is increasing alongside the uptake of solar PV.
- 2. In its view, making payments to market customers is inconsistent with some existing non-energy cost definitions in the NER (this does not include directions compensation payments).<sup>41</sup> AEMO believes this because the trading amount under each calculation is expressed to be a 'negative number' or 'payable by' a market Customer. <sup>42</sup>

AEMO further noted that the NER already effectively permit market customer energy amounts to be floored for the purposes of determining non-energy cost recovery amounts. However, it also noted that there remained ambiguity between existing definitions within the NER, notably the definition of 'customer energy,' which AEMO interprets as not providing for customer flooring.<sup>43</sup>

As noted in section 1.9, stakeholders generally supported the implementation of the flooring mechanism.<sup>44</sup> EnergyAustralia, which agreed with it in-principle, noted that additional information should be provided to substantiate the need for the flooring mechanism.<sup>45</sup>

#### **Retaining the substitution methodology**

Stakeholders had mixed views on whether the substitution methodology, which was introduced in the AEMO rule change, should also be retained if the flooring mechanism is likely to be implemented by AEMO. In its submission, Shell noted that the flooring mechanism should be in addition to the substitution methodology, because each solution addressed a slightly different issue.<sup>46</sup>Conversely, SA Water felt that it should not be retained because it did not see the scenario where all market customers have an AGE of 0 MWh as plausible, at this time.<sup>47</sup>

#### Prescriptive inclusion of the flooring mechanism in the NER

Stakeholders had mixed views on the need to have prescriptive changes in the NER to accommodate the flooring mechanism. Origin noted that the AEMC should clarify that AEMO is required to floor market customer energy at all times. <sup>48</sup> Alternatively, SA Water and the South Australian Government both noted that it was important that a change was made to the definition of 'customer energy' to accommodate the implementation of the flooring mechanism.<sup>49</sup>

<sup>40</sup> AEMO, Submission to draft determination, 29 July 2021, p. 2.

<sup>41</sup> AEMO, Submission to draft determination, 29 July 2021, p. 2.

<sup>42</sup> AEMO, Submission to draft determination, 29 July 2021, p. 2

<sup>43</sup> AEMO, Submission to draft determination, 29 July 2021, p. 2

<sup>44</sup> Submissions to Discussion paper: EnergyAustralia, p. 2; SA Water, p. 2; Origin, P. 1; Shell, p. 1. Government of South Australia p. 1.

<sup>45</sup> EnergyAustralia, Submission to Discussion paper, p. 2.

<sup>46</sup> Shell, Submission to draft determination, 29 July 2021, p. 1.

<sup>47</sup> SA Water, Submission to Discussion paper, p. 2

<sup>48</sup> Origin, *Submission to Discussion paper*, p. 1.

<sup>49</sup> Submissions to Discussion paper: SA Water, p. 2; p. 1. Government of South Australia p. 1.

#### System costs

There was limited feedback on system changes that would need to be made to accommodate the flooring mechanism. However, SA Water noted that implementation of system changes for the flooring mechanism could be completed within eight weeks of the commencement of the *Five-minute settlement* rule change. <sup>50</sup> Origin Energy noted that AEMO should implement the flooring mechanism as soon as is practicable to avoid complexity in billing and settlements.<sup>51</sup>

### 3.3 Commission's analysis

The Commission has chosen to change the definition of 'customer energy' in clauses 3.15.6A(a0) and 3.15.8(a0) of the NER. This rule change removes any ambiguity in the NER which would otherwise prevent AEMO implementing the flooring mechanism. In conducting its analysis, the Commission considered:

- the change in circumstances from the draft determination and the need to implement a solution to address the increasing risk of market customers receiving payments for net negative loads
- AEMO's ability to implement the proposed solution
- the impact of the solution on market customers, particular whether it creates burden or uncertainty
- the rule made in the AEMO rule change
- the longer term solution that may be provided by the implementation of the *Integrating Storage* and *Global settlements and market reconciliation (Global settlement)* rule changes.

# **3.3.1** Addressing the payments risks noted by AEMO and the interaction with the AEMO rule change

The Commission has made the final decision to amend the definition of 'customer energy' in the NER to remove ambiguity that would otherwise prevent AEMO implementing the flooring mechanism. This will prevent payments being made to market customers, because the flooring mechanism prevents a market customer from having a negative AGE for a trading interval.<sup>52</sup>

While the Commission recognises that some stakeholders do not believe the case for the introduction of the flooring mechanism has been made ,<sup>53</sup> the Commission considers that the flooring mechanism should be implemented because the risk of payments being made to market customers is increasing.

On 30 August 2021, AEMO released its latest *Electricity statement of opportunities* (ESOO) in which it noted that negative minimum demand events are now expected as early as 2022-23

<sup>50</sup> SA Water, Submission to Discussion paper, p. 2

<sup>51</sup> Origin, Submission to Discussion paper, p. 1.

<sup>52</sup> Infigen, Settlement under low operational demand, rule change request, p. 12.

<sup>53</sup> EnergyAustralia, submission to Discussion paper, p. 2.

this is earlier than was forecast in the 2020 ESOO.<sup>54</sup> The ESOO now forecasts minimum demand in South Australia for 2022 to be 76 MW.<sup>55</sup> This is substantially lower than the 2020 ESOO forecasted minimum demand of 294 MW.<sup>56</sup> Furthermore, in recent years, the rate of growth of rooftop solar has exceeded ESOO forecasts, which could mean that minimum demand may be even lower than the ESOO forecast.<sup>57</sup>

The Commission notes that, as minimum demand decreases, it becomes more likely that at least one market customer will receive a payment for having a negative AGE value during a trading interval.

#### Interaction with the rule in the AEMO rule change

The flooring mechanism and the substitution methodology will effectively complement each other, as together, they will:

- remove the settlement risk that exists in low, zero or negative demand circumstances<sup>58</sup>
- remove the potential market distortions that can occur as net regional demand approaches 0 MWh in a trading interval, to an extent, and
- ensure prudential assessment will remain effective.<sup>59</sup>

The Commission notes that the risk of a small group of market customers paying a large amount of non-energy costs will exist. However, with both the substitution methodology and flooring mechanism in place, the magnitude of this risk is diminished, as the flooring mechanism prevents the need for costs to be recovered from market customers with positive loads, to pay market customers with negative net loads.

#### 3.3.2 AEMO's ability to implement the solution

AEMO noted in its submission to the discussion paper, that it was able to implement the flooring mechanism by 1 September 2021.<sup>60</sup> Additionally, AEMO has noted that it considers it appropriate to implement the flooring mechanism in its settlement system as a way to respond to the risks of significant over-payments.<sup>61</sup>

<sup>54</sup> AEMO, Electricity statement of opportunities, August 2021, p. 88.

<sup>55</sup> AEMO estimates this at the 50 per cent probability of exceedence. At the 90 per cent probability of exceedence AEMO estimates minimum demand to be 17 MW.

AEMO, *Electricity statement of opportunities- electricity consumption and demand forecasts*, August 2021, http://forecasting.aemo.com.au/Electricity/MinimumDemand/Operational, viewed 8.35am 20 September 2021

<sup>56</sup> AEMO, *Electricity statement of opportunities- electricity consumption and demand forecasts*, August 2020, http://forecasting.aemo.com.au/Electricity/MinimumDemand/Operational, viewed 8.35am 20 September 2021

<sup>57</sup> AEMO's 2020 ESOO forecasts were made when the uptake of rooftop solar was around 5 MW/month. By December 2020, the uptake had grown to nearly 30 MW/month. Around 330 MW of new rooftop solar was installed in South Australia in 2020, while forecasts only anticipated at most around 259 MW, AEMO, Minimum demand in South Australia, p. 1.

<sup>58</sup> Under the current arrangements, if aggregate AGE is exactly zero MWh during a trading interval, AEMO will not be able to calculate, via its automated systems or manually, non-energy costs because there will be a zero denominator, which will mean AEMO is unable to attend to its settlement responsibilities under chapter 3 of the NER. If a non-energy cost recovery amount cannot be allocated, the calculation will fail and AEMO's automated settlement runs will stop working. Because AEMO's settlement is an integrated process, this will impact the settlement of all transactions, including energy and reallocations. See AEMO, NEM settlement in zero and negative demand conditions, rule change request, p. 8.

<sup>59</sup> If its settlement systems fail AEMO's prudential processes will cease to operate effectively, because they rely on settlement data to determine maximum credit limits, corresponding amounts of credit support and to determine when margin calls need to be made. See AEMO, NEM settlement in zero and negative demand conditions, rule change request, p. 8.

<sup>60</sup> AEMO, Submission to discussion paper, 25 August 2021, p. 1.

<sup>61</sup> AEMO, Submission to draft determination, 29 July 2021, p. 3.

On 17 September 2021, AEMO noted that it would change its policy to apply customer flooring ahead of the Commission's final determination. It noted that it would do this if a market Customer was going to receive a payment in a trading interval of \$5000 or more in the recovery of FCAS across all NEM regions.<sup>62</sup>

The Commission is unaware of any other potential solutions that would remove the risk of payments being made to market customers that AEMO would be able to implement within the critical period of spring and early summer, when low demand events are most likely to occur. Furthermore, AEMO has noted that it currently has limited time and capability to implement other changes to its systems. Beyond this rule, AEMO is already committed to implementing other major projects during spring 2021, including:

- Five-minute settlement: 1 October 2021
- Wholesale demand response mechanism: 24 October 2021
- Reducing customer switching times: 1 October 2021
- Electricity B2B changes: 10 November 2021
- Gas B2B changes: 29 November 2021.<sup>63</sup>

#### 3.3.3 Addressing burden and uncertainty for market customers

The Commission acknowledges that the costs to market customers to implement the flooring mechanism needs to be balanced against the need to have the solution in place during the critical period when minimum demand days may occur. AEMO notes that typically this will take place:

- during spring or early summer
- on a public holiday or a weekend day, as demand is typically lower on these days
- during mild, clear weather conditions, with high rooftop solar generation output.<sup>64</sup>

As noted above, SA Water stated it would need eight weeks from the start of five-minute settlement to implement the changes. However, the Commission recognises:

- This will mean that when the rule change is implemented, the majority of the spring and early summer period when low demand conditions are likely to take place will have already passed. This will expose market customers to a longer period of potentially inequitable outcomes and higher risks of the issues outlined by Infigen in its rule change request.
- SA Water's submission was provided before AEMO chose to implement the flooring mechanism, which the Commission believes may lead to uncertainty for some market participants.

In light of AEMO's decision to implement the flooring mechanism in certain circumstances, the Commission considers that it is important to minimise unnecessary complexity.

<sup>62</sup> AEMO, Correspondence to stakeholders, 17 September 2021, pp. 1-2.

<sup>63</sup> AEMO, Regulatory roadmap v.5., 5 August 2021.

<sup>64</sup> AEMO, Operational management of low demand in South Australia, 22 October 2020, p. 1.

Therefore, the Commission's decision is that the rule will commence on Sunday 10 October 2021. This aligns the commencement of the rule with the beginning of the settlement week, to minimise additional complexity. It also provides stakeholders greater certainty, because it removes any remaining barriers that may prevent AEMO implementing the flooring mechanism in full. It will also mean the flooring mechanism is in place during the high risk periods outlined by AEMO.

#### Prescribing the flooring mechanism

In its submission to the Discussion paper, Origin Energy noted that the AEMC should clarify in the rules that AEMO is required to floor market customer energy at all times.<sup>65</sup> The Commission has decided not do this. This is because:

- codifying the flooring mechanism in the rules could lead to unexpected ambiguity
- this is likely to be an interim solution.

Making the smaller change of amending the definition of 'customer energy' is a targeted response that removes the remaining ambiguity in the NER that would prevent AEMO introducing the flooring mechanism. Making more substantial changes runs the risk of creating unintended regulatory ambiguity for market customers. Because of this and the fact that this is intended as an interim solution, the Commission considers that this targeted solution will be sufficient to achieve the aim of having the flooring mechanism implemented.

#### 3.3.4 Implementing both the flooring mechanism and substitution methodology

In its submission to the Discussion paper, SA Water suggested that if the flooring mechanism was implemented, then the substitution methodology should not be retained. The Commission's final decision is that the substitution methodology must be retained to address the risk that NEM settlement could fail. This risk is not addressed by the flooring mechanism.

As noted in the AEMO rule change final determination, the substitution methodology may result in some distortion, given that it relies on historical values. However, this needs to be balanced against the potential distortion and uncertainty that could result in the event that AEMO is unable to settle the NEM. Additionally, the Commission notes that this solution is only intended to be temporary. As such, any risk of market distortion should be short-lived.

The AEMO rule change determination retains a safeguard to protect against unintended consequences. This is because the rule allows for the substitution period in the substitution methodology to be reviewed, where either AEMO or a market customer believes that it does not yield a representative AGE value for the relevant recovery periods.<sup>67</sup>

<sup>65</sup> Origin, Submission to discussion paper, 26 August 2021, p. 2.

<sup>66</sup> This risk would eventuate if all market customers within a region have an AGE that is negative or zero. Under this scenario the negative AGE market customers would have their AGE floored to zero, creating a situation where the denominator for non-energy cost recovery is zero, This would cause the calculation to fail.

<sup>67</sup> Clause 3.15.6AA(d) of the NER. To be reviewed substitution must have occurred in at least five billing periods

# 3.4 Conclusion

The Commission considers that the more preferable final rule to amend the current definition of 'customer energy' in clauses 3.15.6A(a0) and 3.15.8(a0) is a comparatively low burden solution for all stakeholders, based on the feedback it has received.

The introduction of the flooring mechanism will remove the increasing risk that market customers may receive payments for having net negative loads, until a longer term solution can be implemented.

Additionally, pairing the substitution methodology with the flooring mechanism will provide a more comprehensive response to manage the settlement risks that were identified by AEMO in the AEMO rule change and the inequitable payment risks and the disproportionate costs risks noted by Infigen in its rule change request.

The rule will commence on 10 October 2021.

4

# INCLUDING RERT IN THE NON-ENERGY COST AVERAGING MECHANISM

The Commission has decided not to adjust the averaging mechanism within the substitution methodology to include RERT. This chapter:

- explains the averaging mechanism within the substitution methodology
- provides relevant stakeholder feedback from the draft determination
- explains how the RERT operates
- provides the Commission's analysis in relation to including the RERT in the substitution methodology
- provides the Commission's conclusions.

### 4.1 The averaging mechanism

The substitution methodology introduced in the AEMO rule change was intended to be an interim and inexpensive solution to the issues raised by AEMO in its rule change request. To reduce the implementation burden on AEMO and market customers, it also involved a reduced scope, with RERT costs and compensation for administered price cap or floor events excluded from the final rule. This was to minimise implementation costs, because these non-energy costs are highly unlikely to be incurred during minimum demand periods.<sup>68</sup>

## 4.2 Stakeholder feedback

As noted in section 1.8, Shell Energy suggested that the Commission should reconsider excluding RERT recoveries from the mechanism.<sup>69</sup>

Shell Energy noted that, while it agreed that it was unlikely that RERT activation would be triggered during a low demand period, it noted that the probability was not zero. This is because when a RERT contract is in place AEMO may also dispatch RERT to maintain power system security.

## 4.3 What is RERT?

RERT is the NEM's strategic reserve mechanism and forms part of the reliability framework, it is used to ensure reliability of supply. Under the NER AEMO is required to take reasonable steps to ensure reliability of supply to meet the reliability standard and AEMO contracts for RERT on this basis. It allows AEMO to procure 'standby' emergency reserves when a supply shortfall is forecast. To date, it has typically been used when extreme heatwaves are predicted and is typically deployed to prevent or reduce the amount of unserved energy that could otherwise occur.

<sup>68</sup> AEMC, NEM settlement under low, zero and negative demand conditions, final rule determination, p. 4.

<sup>69</sup> Shell Energy, Submission to draft determination, p. 2. Shell Energy, Submission to discussion paper, p. 2.

Using the RERT AEMO can contract for emergency reserves including generation, scheduled network services, scheduled loads and unscheduled reserves that would not otherwise be available to the market through any other arrangement.<sup>70</sup> AEMO can activate contracted emergency reserves in the event that it determines that the reliability standard will not be met in a given time horizon or, where practicable, to maintain power system security.<sup>71</sup>

As mentioned above, RERT can be used to maintain power system security. However, it cannot be contracted to maintain power system security. Instead, it can only be used to maintain power system security when an existing RERT contract is in place.

#### 4.3.1 RERT cost recovery

Direct costs associated with reserve contracts are recovered, where possible, from those market customers who contributed to the need for the RERT in the region in which the RERT was activated. The costs are recovered from each market customer based on the amount of electricity it consumed (measured as the sum of AGE amounts) during the trading intervals that the RERT was activated for relevant billing periods.<sup>72</sup>

Other costs (such as availability charges, pre-activation charges and general administrative costs associated with the RERT) are recovered from market customers based on consumption over the billing period.

#### 4.4 Commission's analysis

This rule change request and the AEMO rule change are concerned with the potential impacts of low net regional demand. However, RERT is contracted for forecast supply shortfalls. By definition, RERT reserves can only do one of two things:

- increase supply in or into a region; or
- reduce demand.

Both of these responses would tend to exacerbate low net regional demand conditions.

AEMO has indicated that it cannot envisage a plausible scenario in which contracted reserves would be deployed to address a system security issue in low net regional demand conditions. In South Australia, directions and curtailment have primarily been used to maintain system security during periods of low demand.

Further, although RERT can be used for system security reasons, as identified by Shell, a RERT contract would have to already be in place and that contract could only have been procured for reliability purposes during low operational demand.<sup>73</sup>

<sup>70</sup> Clause 3.20.3 of the NER.

<sup>71</sup> Clause 3.20.7 of the NER.

<sup>72</sup> AEMC, Integrating energy storage systems into the NEM, Draft rule determination, 15 July 2021.

<sup>73</sup> Clause 3.20.3 of the NER.

#### 4.4.1 Potential impacts

As outlined in section 4.3.1, costs associated with RERT contracts are recovered on a regional basis, when a reserve contract is in place, relative to the market customer's AGE over the trading intervals in which the reserves are dispatched or activated.<sup>74</sup>

During low net regional demand periods the RERT cost recovery formula could fail in a similar way to what was described above in section 1.5. The Commission notes that it is theoretically possible that pre-contracted RERT could be activated during a period of low operational demand. However, it would require AEMO's control room operators, who understand the risk of settlement failure, to consciously choose to utilise RERT over other solutions, such as directions or curtailment. The Commission considers this to be unlikely.

#### 4.4.2 Implementation issues

AEMO has informed the Commission that it is unable to apply the settlement methodology to RERT by the implementation date. Because of this, it is unlikely that this change would be in place for the critical period for low demand which is typically in spring and early summer<sup>75</sup> In the long-term, the *Integrating storage* rule change will, if made as final, provide a more comprehensive solution to this issue. If its draft determination is made final, AEMO has advised implementation could occur on 28 April 2023. As such the benefits of AEMO including the RERT in the substitution methodology are unlikely to exceed the costs and will be minimal.

Relatedly, upgrading these systems at a later date, would likely lead to additional burden on market customers, who would have to make further systems changes after making systems changes to accommodate both this rule change and the AEMO rule change.

#### 4.5 Conclusions

The Commission has decided not to change its final decision in the AEMO rule change to include RERT recoveries as part of the averaging for the substitution methodology. The Commission considers that it is highly unlikely that RERT would be called upon in low demand circumstances to manage system stability because:

- directions and curtailment are more effective measures
- RERT can only be used for system security purposes, if there is already an existing contract in place
- as RERT is designed to increase supply or reduce demand it is most likely an ineffective tool to manage low demand
- AEMO's control room operators would need to actively choose to use RERT in low demand circumstances, over more effective measures, knowing that to do so could lead to AEMO's settlement system failing.

<sup>74</sup> Clause 3.15.9(e)(3) of the NER.

<sup>75</sup> AEMO, Operational management of low demand in South Australia, 22 October 2020, p. 1.

Additionally, the Commission notes that, if it were to make changes to the substitution methodology to include RERT, these changes would not be able to be made immediately and would likely raise costs for AEMO and participants without material benefits. As the benefits do not outweigh the costs of implementation, including RERT as part of the substitution methodology is considered unlikely to meet the NEO.

# **ABBREVIATIONS**

AEMC	Australian Energy Market Commission		
AEMO	Australian Energy Market Operator		
AER	Australian Energy Regulator		
AGE	Adjusted gross energy		
COAG	Council of Australian Governments		
Commission	See AEMC		
ESOO	Electricity statement of opportunities		
FCAS	Frequency Control Ancillary Services		
MCE	Ministerial Council on Energy		
NEL	National Electricity Law		
NEM	National Electricity Market		
NEO	National electricity objective		
NER	National Electricity Rules		
RERT	Reliability and Reserve Trader		

# A LEGAL REQUIREMENTS UNDER THE NEL

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

# A.1 Final rule determination

In accordance with s. 102 of the NEL the Commission has made this final rule determination in relation to the rule proposed by Infigen.

The Commission's reasons for making this final rule determination are set out in section section 2.5.

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

### A.2 Power to make the rule

The Commission is satisfied that the more preferable final rule falls within the subject matter about which the Commission may make rules. The more preferable final rule falls within s. 34 of the NEL as it relates to the operation of the national electricity market.

## A.3 Commission's considerations

In assessing the rule change request the Commission considered:

- its powers under the NEL to make the rule
- the rule change request
- submissions received during first round consultation
- submissions in response to the draft determination
- submissions received during the consultation period following the publication of the Discussion paper
- the Commission's analysis as to the ways in which the proposed 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.<sup>76</sup>

<sup>76</sup> 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 was formerly called the COAG Energy Council but is now the Energy Ministers Meeting.