



Australian Energy Market Commission

DISCUSSION PAPER

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

PROPONENT

Infigen Energy

05 AUG 2021

RULE

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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1 INTRODUCTION

On 17 June 2021, the Australian Energy Market Commission (AEMC or Commission) made a draft decision to make no rule in relation to Infigen Energy's (Infigen's) *Settlement under low operational demand* rule change (the Infigen rule change). It did this because it considered the issues raised by Infigen were adequately dealt with through the final determination on the Australian Energy Market Operator's (AEMO's) *NEM settlement in low, zero and negative demand conditions* rule change (the AEMO rule change). In the Commission's view, and based on information available to it at the time of making the decision, any additional rule would not contribute to the achievement of the national electricity objective (NEO).

However, AEMO has provided new information to the Commission on the market customer flooring solution (flooring mechanism) through its submission to the draft determination. The Commission considers it important that stakeholders are able to consider this new information and therefore it is seeking additional stakeholder feedback on the *Settlement under low operational demand* rule change. This paper discusses this new information and AEMO's view on the need to implement the flooring mechanism. The flooring mechanism is described within Infigen's rule change request and below in section 3.1.

The Commission had intended to publish a final determination for this rule change on 26 August 2021. To consult further on the new information from AEMO it will extend the period for making the final determination to 7 October 2021. The Commission made the decision to extend the timeframe because there was a material change in circumstances resulting from AEMO's submission. The extension allows the AEMC to consider these issues with stakeholders and make a more informed final rule determination.

Stakeholders should note that the proposed flooring mechanism outlined in this discussion paper does not impact on the implementation of the final rule from the AEMO rule change.

1.1 Background — Infigen and AEMO rule change requests

On 15 February 2021, the Commission received the Infigen rule change which outlined issues that could arise from the current non-energy cost recovery formulas during periods of low operational demand. Currently, these formulas rely on numerators and denominators that include adjusted gross energy (AGE), which is a customer's net flow of electricity at a connection point.

Under low net regional demand, some market customers are likely to be net generators (negative AGE values) and under the current formulas they would incorrectly receive a payment for non-energy costs. The remaining market customers, which are net loads (positive AGE values), would be forced to pay a disproportionate share of non-energy costs to cover this payment. That is net loads would cover both the payments made by AEMO to net generators and the total non-energy costs.

Additionally, these payments and recoveries increase as net regional demand decreases and non-energy costs increase which may lead to material cost impacts, distortions in the equitable recovery of costs and impacts for system security and reliability.¹

Infigen also notes that if net regional demand was to fall to zero across a trading interval, the current cost recovery formulas would fail to calculate due to a divide-by-zero error, preventing settlement across the national electricity market (NEM). To address this issue, Infigen proposed a flooring mechanism where any negative AGE values are set at zero in the non-energy costing formulas. This mechanism would remove the possibility for a market customer to receive a payment for non-energy costs.

On 8 February 2021, the Commission also received a rule change request from AEMO to amend parts of rule 3.15 of the National Electricity Rules (NER) to allow for a substitution of 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. In its rule change request, Infigen also noted that there was an alternative solution to its proposed flooring mechanism, which was to raise the threshold of when AEMO's substitution method was triggered from 1 MWh to 150 MWh.

On 17 June 2021, the Commission made a final rule under the AEMO rule change that allows the NEM to settle transactions by substituting AGE values for a market customer's average AGE from the previous four billing periods, when net regional demand is less than 150 MWh in a trading interval.² The Commission considered that the flooring mechanism and increasing the trigger for the substitution method to 150 MWh solution as relatively similar in that both address the competitive equity issues to an extent. Moreover, both are considered interim measures until a more permanent solution is progressed, potentially through the *Integrating energy storage systems into the NEM* (Integrating storage) rule change.

From that, the Commission made a draft decision that making an additional rule under the Infigen rule change above that already made in the AEMO rule change final determination would pose additional costs on participants and have limited benefits.

¹ Infigen, *Settlement under low operational demand*, rule change request, 2021, p. 2.

² The threshold for substitution will be adjusted to 25 MWh when trading intervals move from 30 minutes to five minutes with the introduction of five minute settlement.

2 NEW INFORMATION FROM AEMO

On 29 July 2021, AEMO provided a submission to the Commission's draft determination on the Infigen rule change in which it considered that the flooring mechanism should be implemented within their settlement systems. AEMO's view was based on:

- its ability to deliver the flooring mechanism by 1 September 2021
- its recent review of the NER and determination that the flooring mechanism is consistent within the current rules
- the changing risk level in the NEM.

2.1 AEMO's implementation timeline

AEMO had initially advised the AEMC that it would be unable to implement the flooring mechanism proposed by Infigen by 1 September 2021.³ On this basis, the consultation paper for the Infigen rule change proposal indicated that it was not a practical option for consideration.

On 21 May 2021, AEMO informed the AEMC that it could implement the flooring mechanism by the end of 2021, due to internal resources becoming available. Given this information was provided to the Commission late in the process, had not been consulted on, and there was a need to address the settlement issues in particular before spring 2021, the Commission did not consider the flooring mechanism in detail in the draft determination. The Commission decided to implement the substitution method as outlined in section 1.1, given the understanding of the risks and benefits of the proposed solutions and based on the information available to the Commission at the time.

In its submission to the draft determination, AEMO confirmed that it had been able to design the flooring mechanism and would be in a position to implement it by September 2021.⁴

2.2 AEMO's interpretation of the rules

In its submission to the draft determination, AEMO identified that, in its view, chapter 3.15 of the NER, which governs the non-energy cost recovery calculations, requires that the trading amount under each non-energy cost calculation should be payable by a market customer.⁵ The trading amount represents the amount that market customers are required to pay given the cost of the non-energy service and their AGE. However, as noted above, under the current rules, where AGE is negative this formula can result in a positive value and result in a payment to those customers.

In AEMO's view, the calculation of non-energy costs (except for directions compensation payments) should not result in any payment to market customers, given the definition of

³ AEMC, Settlement under low operational demand, Consultation paper, 22 April 2021, p. 19.

⁴ AEMO, Submission to the draft determination, p. 2.

⁵ Ibid.

'negative number' and 'payable by'. It considers that the flooring mechanism recommended by Infigen is consistent with these existing provisions.

Further, AEMO is of the view that additional ambiguity arises because the definitions of generator energy and small customer energy specifically provide for flooring in clauses 3.15.6A(a0) and 3.15.8(a), but the definition of customer energy does not.⁶ In its submission to the draft determination, AEMO has requested that the Commission consider amending the definition of customer energy to match the definitions of generator energy and small customer energy.

2.3 Changing risk level

Infigen outlines in its rule change request that there are risks associated with the current non-energy cost recovery formulas, which can result in material cost impacts on customers, distortions of the market and impacts on the security and reliability of the system.⁷ To address this risk, the Commission made a more preferable rule under the AEMO rule change that incorporated a 150MWh threshold solution for the substitution method. This approach was an alternative solution provided by Infigen if the flooring mechanism could not be implemented.⁸

However, in its submission, AEMO has highlighted that the continued acceleration in the uptake of distributed energy resources, coupled with the ongoing potential for high regional non-energy costs, increases the risks that Infigen identified with respect to non-equitable cost recoveries.

The final determination made as part of the AEMO rule change contemplated that these interim measures would be in place for 12-24 months, pending the implementation of the long term solution currently proposed in the draft determination for the *Integrating energy storage systems into the NEM* rule change. The *Integrating energy storage systems into the NEM* rule change has a draft implementation date for the changes to non-energy cost recovery in April 2023.

In AEMO's view, this timeframe, coupled with the increased risk of potential high regional non-energy costs, requires the Commission to further consider the flooring mechanism.

6 AEMO, submission to the draft determination, p. 2.

7 Infigen, *Settlement under low operational demand*, rule change request, 2021, p. 2.

8 AEMC, *NEM settlement under low, zero and negative demand conditions*, Rule determination, 17 June 2021.

3 ISSUES FOR CONSULTATION

In its submission to the draft determination, AEMO notes it considers it appropriate to implement the flooring mechanism in its settlement systems because it will address the equity issues raised by Infigen in its rule change request over and above that which is provided under the substitution method. The Commission wishes to understand stakeholder views of AEMO's proposal, in particular the costs and system changes required by participants should it make a decision to include the flooring mechanism in the NER.

Stakeholder should note that the 150 MWh substitution method made under the AEMO rule change will be implemented on 1 September 2021. Should the Commission make any decision to implement the flooring mechanism, it would be done so in a timeframe that the Commission considers reasonable to stakeholders. The effect of this would be two separate changes to deliver the interim solutions that address the issues raised by both AEMO and Infigen. The Commission invites stakeholders to outline their views on the cost and time requirements needed to implement the flooring mechanism within their own systems. This includes implementation issues from other market reforms, in particular the contingency rule change related to five-minute settlement (a consultation paper on this rule change was released on 5 August 2021).

The Commission is seeking feedback on the proposed implementation of the flooring mechanism, noting that the issues raised during the draft determination consultation period will be also addressed by the Commission during the final determination.

3.1 The flooring mechanism

The flooring mechanism, as proposed by Infigen, would amend rule 3.15 of the NER such that a lower limit of zero is set on market customer AGE values within the non-energy cost recovery formulas. The proposed solution can be seen in the proposed cost formula below:

$$\text{Allocated cost} = \text{Service cost} \times \frac{\max(0, \text{Market Customer's AGE})}{\sum \max(0, \text{AGE})}$$

Infigen notes that the formula still has the potential for being unable to solve if all market customers in a region had a load that is net negative or zero for a trading interval. This risk is removed by the 150 MWh substitution solution that was made final within the *Settlement in low, zero and negative demand conditions* rule change.⁹

As noted above, AEMO considers that the flooring mechanism can be implemented by changing the definition of customer energy, rather than including the formula proposed by Infigen. AEMO's proposed change to customer energy is outlined below:

⁹ The 150 MWh threshold will be reduced to 25 MWh on the introduction of five-minute settlement. AEMC, *NEM settlement under low, zero and negative demand conditions*, Rule determination, 17 June 2021.

BOX 1: PROPOSED CHANGE TO DEFINITION OF CUSTOMER ENERGY

AEMO has proposed the following change to the definition of customer energy in clauses 3.15.6A(a0) and 3.15.8(a0), as shown by the underlined text below:

Customer energy in respect of a *Market Customer* for a *trading interval* means the sum of the *adjusted gross energy* figures calculated for that *trading interval* in respect of that Market Customer's relevant connection points, provided that, if the sum of those figures is positive, then the *Market Customer's* customer energy for that *trading interval* is zero.

BOX 2: ISSUES FOR CONSULTATION

1. In light of the new information provided by AEMO, do stakeholders consider that the flooring mechanism should be implemented in addition to the 150 MWh threshold solution?
2. Does AEMO's interpretation of the NER provide sufficient certainty of calculations or should the flooring mechanism be prescriptive within the NER?
3. If the Commission were to make a final rule which implemented the flooring mechanism, what costs and system upgrades would be required by participants and how long would this take (noting other reforms like five minute settlement and wholesale demand response are also in the last stages of being implemented)?
4. Is there any additional risks in changing the definition of customer energy that the Commission should consider?

3.2 Consultation next steps

The Commission welcomes submissions from stakeholders in response to this discussion paper. Submissions on this discussion paper will be open for a period of three weeks and will close on **26 August 2021**. The Commission also welcomes interested stakeholders to contact the Commission to discuss this directions paper or any related issues.

Where practicable, submissions should be prepared in accordance with the Commission's guidelines for making written submissions.¹⁰ The Commission publishes all submissions on its website, subject to a claim of confidentiality. Please clearly mark any sections of your submission which you consider contains confidential material.

The Commission proposes to publish a final determination on **7 October 2021**.

If you have any questions on this project, please contact:

- Harrison Gibbs on (02) 8296 0626 or harrison.gibbs@aemc.gov.au
- Kate Wild on (02) 8296 0622 or kate.wild@aemc.gov.au.

¹⁰ This guideline is available on the Commission's website www.aemc.gov.au.

ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AGE	Adjusted gross energy
Commission	See AEMC
NEL	National Electricity Law
NEO	National electricity objective
NEM	National electricity system
NER	National Electricity Rules