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Australian Energy Market Commission

## **RULE DETERMINATION**

# **NATIONAL ELECTRICITY AMENDMENT (FIVE MINUTE SETTLEMENT AND GLOBAL SETTLEMENT IMPLEMENTATION AMENDMENTS) RULE 2019**

### **PROPONENT**

Australian Energy Market Operator

8 AUGUST 2019

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# **RULE**

**Rule determination**

Five minute settlement and global settlement implementation amendments

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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.

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## SUMMARY

1 The Australian Energy Market Commission (AEMC or Commission) has made a final rule to amend the Five minute settlement<sup>1</sup> and Global Settlement and market reconciliation (Global settlement)<sup>2</sup> rules. The final rule improves wholesale market operations under five minute settlement, clarifies global settlement arrangements and improves information provision requirements.

2 The final rule is in response to a rule change request submitted by the Australian Energy Market Operator (AEMO). The final rule is generally consistent with AEMO's proposed rule in its rule change request, but varies in some minor aspects.

### 3 **AEMO's rule change request**

4 On 15 March 2019, the Commission received a rule change request from AEMO that sought to amend six areas of the National Electricity Rules (NER). AEMO considered the amendments would help the market efficiently and effectively implement five minute settlement and global settlement.

5 On 13 May 2019, the Commission received from AEMO an addendum to AEMO's Five minute settlement and global settlement implementation amendments rule change request, proposing that three further areas of the NER be amended as part of the rule change request. The Commission assessed all nine proposed amendments to the NER as part of the same (single) rule change request.

### 6 **Key features of the more preferable final rule**

7 In relation to the operation of the wholesale market under five minute settlement, the rule:

- Provides AEMO with the flexibility to calculate Marginal Loss Factors (MLFs) using either 30 minute or shorter resolution data.
- Allows AEMO to accommodate fast-start inflexibility profiles in pre-dispatch.
- Removes the requirement for the Reliability Standard and Settings Guidelines (RSSR Guidelines) to be amended as part of the transitional arrangements for five minute settlement.

8 Regarding global settlement, the rule:

- Clarifies that non-contestable unmetered loads are to be assigned to a Transmission Node Identifier (TNI) or Virtual Transmission Node (VTN) that is most appropriate, as opposed to the same (single) TNI/VTN.
- Clarifies that no retailer has financial responsibility at a transmission / distribution boundary point.
- Clarifies that all customer loads are to be market loads.

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1 National Electricity Amendment (Five minute settlement) Rule 2017 No. 15.

2 National Electricity Amendment (Global settlement and market reconciliation) Rule 2018 No. 14

- Clarifies that Unaccounted for energy (UFE) will not be allocated to distribution-connected generators.

9 Regarding information provision, the rule:

- Removes the requirement on AEMO to run a Rules Consultation process when amending the Spot market operations timetable for minor or administrative changes.
- Amends the period during which metering data providers must send AEMO data, for publishing information for market customers on their potential UFE financial liability before global settlement commences.

## 10 **Reasons for making a more preferable rule**

11 The final rule is a more preferable rule. The Commission is satisfied that the final rule better meets the National Electricity Objective (NEO) than the proposed rule because:

- The final rule removes the requirement for the RSSR guidelines to be updated from the transitional arrangements of the five minute settlement rule.
- The final rule amends the term 'non-market unmetered loads' to 'non-contestable unmetered loads'. The updated term was reflected in AEMO's addendum to their rule change request.

## 12 **Assessment against the NEO**

13 The Commission is satisfied that the final rule will, or is likely to, contribute to the achievement of the NEO for the following reasons:

- It supports the allocation of risk to those parties that are best placed to manage them
- It supports efficient investment and efficient operation in the supply of electricity with respect to price
- It reduces the regulatory burden associated with the five minute settlement and global settlement rules
- It makes administrative corrections.

## 14 **The expedited rule making process**

15 AEMO requested that the rule change be considered a non-controversial rule change request and assessed under an expedited rule change process. No requests not to carry out an expedited rule change process were received. Accordingly, the rule change request was considered under an expedited process.

16 The Commission received 6 stakeholder submissions to the rule change request. Stakeholders largely supported several amendments and held mixed views on the other amendments.

## 17 **Commencement of the rule**

18 The final rule commences on:

- 1 July 2021 for amendments to the NER that relate to commencement of the *Five minute settlement* rule.
- 6 February 2022 for amendments to the NER that relate to the commencement of the *Global settlement and market reconciliation* rule.

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- 12 August 2019 for amendments to the Spot market operations timetable and transitional arrangements in the NER relating to the *Five minute settlement* and *Global settlement and market reconciliation* rules.

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# 1 AEMO'S RULE CHANGE REQUEST

## 1.1 The rule change request

On 15 March 2019, the Australian Energy Market Commission (Commission) received a rule change request from the Australian Energy Market Operator (AEMO)<sup>3</sup> relating to the implementation of the Five minute settlement<sup>4</sup> and Global settlement and market reconciliation (Global settlement)<sup>5</sup> rules.<sup>6</sup> This rule change request sought to amend six areas of the National Electricity Rules (NER) that AEMO considered would assist in implementing five minute settlement and global settlement effectively and efficiently. The changes sought to improve wholesale market operations under five minute settlement, clarify global settlement arrangements and improve information provision requirements.

On 13 May 2019, the Commission received an addendum to the Five minute settlement and global settlement implementation amendments rule change request from AEMO.<sup>7</sup> The addendum identified three further areas of the NER that AEMO sought to have amended as part of the rule change request. The three further areas all sought to clarify global settlement arrangements, to avoid unintended consequences of implementing the global settlement rule.

AEMO requested that all nine proposed amendments to the NER be part of the same (single) rule change request. The Commission decided to assess all nine proposed amendments to the NER as part of the same (single) rule change request.

AEMO requested that the rule change request be considered a non-controversial rule change request,<sup>8</sup> and as a result, be assessed under an expedited rule change process.

## 1.2 Background

On 28 November 2017, the Commission made a rule to align operational dispatch and financial settlement at five minutes. The five minute settlement rule will reduce the time interval for financial settlement in the NEM from 30 minutes to five minutes. The five minute settlement rule allowed for an implementation period of 3 years and 7 months, such that it would commence on 1 July 2021.

On 6 December 2018, the Commission made a rule to introduce a 'global settlement' framework for settlement of the demand side of the wholesale electricity market. The global settlement rule moves away from the current 'settlement by difference' approach. The global settlement rule will commence on 6 February 2022.

Appendix C provides more detail on each of these rules.

<sup>3</sup> AEMO, *Five-minute settlement and global settlement implementation amendments rule change request*, 15 March 2019.

<sup>4</sup> *National Electricity Amendment (Five Minute Settlement)*, Rule 2017, No. 15.

<sup>5</sup> *National Electricity Amendment (Global Settlement and Market Reconciliation)*, Rule 2018, No. 14.

<sup>6</sup> See Appendix C for a description of the five minute settlement and global settlement rules.

<sup>7</sup> AEMO, *Addendum to five-minute settlement and global settlement implementation amendments rule change request*, 13 May 2019.

<sup>8</sup> Section 96 of the NEL.



## 1.3 Rationale for the rule change request and proposed solutions

The rule change request sought to address nine areas of the NER that AEMO considered would assist in implementing five minute settlement and global settlement effectively and efficiently. The AEMC grouped these nine issues into three categories:

- wholesale market operations for five minute settlement
- clarifying global settlement
- information provision.

Table 1.1 lists the categories, issues and the sections of this final determination in which they are discussed.

**Table 1.1: Summary of proposals in five minute settlement and global settlement implementation amendments rule change request**

<b>ISSUE CATEGORY</b>	<b>RULE CHANGE PROPOSAL</b>	<b>SECTION OF THIS FINAL DETERMINATION</b>
<b>Wholesale market operations for five minute settlement</b>	<ul style="list-style-type: none"> <li>• Resolution for calculating marginal loss factors (MLFs) - 30 minutes or shorter</li> <li>• Accommodating fast-start plant in pre-dispatch</li> <li>• Correction to list of AEMO procedures</li> </ul>	<ul style="list-style-type: none"> <li>• 3.1</li> <li>• 3.2</li> <li>• 3.3</li> </ul>
<b>Clarifying global settlement</b>	<ul style="list-style-type: none"> <li>• Assigning non-market unmetered loads to a Transmission Node Identifier (TNI) or Virtual Transmission Node (VTN).</li> <li>• Removing retailer financial responsibility at transmission / distribution boundary points.</li> <li>• All customer loads to be market loads</li> <li>• UFE not to be allocated to distribution-connected generators.</li> </ul>	<ul style="list-style-type: none"> <li>• 4.1</li> <li>• 4.2</li> <li>• 4.3</li> <li>• 4.4</li> </ul>
<b>Information provision</b>	<ul style="list-style-type: none"> <li>• Amending the spot market operations timetable</li> <li>• Timing for AEMO to publish UFE data</li> </ul>	<ul style="list-style-type: none"> <li>• 5.1</li> <li>• 5.2</li> </ul>

## 1.4 The rule making process

On 13 June 2019, the Commission published a notice advising of its commencement of the rule making process and consultation in respect of the rule change request.<sup>9</sup> A consultation

<sup>9</sup> This notice was published under s. 95 of the NEL.

paper identifying specific issues for consultation was also published. Submissions closed on 11 July 2019.

The Commission considered that the rule change request was a request for a non-controversial rule as defined in s. 96 of the NEL. Accordingly, the Commission commenced an expedited rule change process, subject to any written requests not to do so. The closing date for receipt of written requests was 27 June 2019.

No requests to not carry out an expedited rule change process were received. Accordingly, the rule change request was considered under an expedited process.<sup>10</sup>

The Commission received six submissions. Issues that stakeholders raised that are not discussed in the body of this document have been summarised and responded to in Appendix A.

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<sup>10</sup> Section 96 of the NEL.

## 2 FINAL RULE DETERMINATION

This chapter outlines the:

- Commission's final rule determination
- 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.

### 2.1 The Commission's final rule determination

The Commission's final rule determination is to make a more preferable final rule. The more preferable final rule improves wholesale market operations for five minute settlement, clarifies global settlement and improves information provision in relation to both market reforms.

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

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

### 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 NEO.<sup>11</sup> This is the decision making framework that the Commission must apply.

The NEO is:<sup>12</sup>

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.

#### 2.2.2 Making a more preferable rule

Under s. 91A of the National Electricity Law (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.

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<sup>11</sup> Section 88 of the NEL.

<sup>12</sup> Section 7 of the NEL.

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

## 2.3 Assessment framework

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

- **Risk allocation** - whether the rule change request supports the allocation of risk to those parties that are best placed to manage them.
- **Price** - whether the rule change supports efficient investment and operation in the supply of electricity, with respect to price.
- **Reliability** - whether the rule change request supports efficient operation and use of electricity services, with respect to the reliability of the national electricity system.
- **Regulatory burden** - whether the cost of implementing a solution are proportional with the benefits of that solution.
- **Administrative issues and corrections** - to clarify or provide certainty.

## 2.4 Summary of reasons

The more preferable final rule made by the Commission is attached to and published with this final rule determination. The key features of, and rationale for, the more preferable final rule are as follows.

Regarding the operation of the wholesale market under five minute settlement, the rule:

- Provides AEMO with the flexibility to calculate MLFs using either 30 minute or shorter resolution data. This will allow AEMO to retain its current method of calculating MLFs on a 30 minute basis and avoid the requirement (in the five minute settlement rule) to update AEMO's calculation to be based on 5 minute data - for negligible benefit (minor accuracy improvement). It provides AEMO with the flexibility to transition to the use of shorter resolution data in future when that becomes practicable or if the circumstances allow for it.
- Provides AEMO with the ability to accommodate fast-start inflexibility profiles in pre-dispatch. This supports a key purpose of the five minute settlement rule; to provide incentives for fast-start plant (i.e. fast-start generators and batteries) to respond to supply and demand changes in the shortest timeframe practicable.
- Removes the requirement for the RSSR Guidelines to be amended as part of the transitional arrangements for five minute settlement. While minor amendments are required to these guidelines to reflect five minute settlement, these amendments are not necessary to assist market participants in their implementation of five minute settlement. Given other changes in the market, it is more preferable to retain the current flexibility on the timing of when the Reliability Panel is to update the RSSR guidelines.

In relation to global settlements, the rule:

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- Clarifies that non-contestable unmetered loads are to be assigned to a TNI or VTN that is most appropriate, as opposed to the same (single) TNI/VTN. This clarifies the policy intent of the global settlement framework and supports the costs of non-contestable unmetered load being accurately matched to, and therefore paid by, the respective franchise customer (local council or telecommunications company).
- Clarifies that no retailer has financial responsibility at a transmission / distribution boundary point. This implements the global settlement framework and enables NEM settlements to be reconciled, providing more accurate information to the market.
- Clarifies that all customer loads are to be market loads. This allows non-contestable unmetered loads to be accounted for in settlement, removed from UFE and continued to be paid for by local councils and telecommunications companies. This avoids unmetered loads being incorrectly distributed to other retailers as part of the UFE calculation.
- Clarifies that UFE will not be allocated to distribution-connected generators. This realises the policy intent of the global settlement rule; that UFE costs are only allocated to market customers when they are net consumers of energy. UFE is not to be allocated to market customers when they are net suppliers of energy or to embedded generators.

In the area of information provision, the rule:

- Removes the requirement for AEMO to run a Rules Consultation process when amending the Spot market operations timetable for minor or administrative changes. This avoids the time and resources required to consult and amend the timetable for minor or administrative changes and is consistent with the approach in the NER for amending some other AEMO procedures for such changes. The rule includes a requirement for AEMO to publish any amendments to the Spot market operations timetable.
- Amends the period during which metering data providers are required to send AEMO data to calculate UFE for the soft start period of global settlement. The rule supports the policy intent of the global settlement rule; that AEMO calculates and publishes aggregate UFE quantities during the soft start period, so market customers can calculate the UFE allocation they would have received.

**Assessment against the NEO**

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

- **Risk allocation and price** - the rule supports the allocation of risk to those parties that are best placed to manage them and the efficient investment and operation in the supply of electricity with respect to price. This is achieved through the following amendments:
  - clarify that no retailer has financial responsibility at transmission / distribution boundary points
  - clarify that non-contestable unmetered loads are to be assigned to a TNI or VTN that is most appropriate, as opposed to the same (single) TNI/VTN
  - accommodate fast-start plant in pre-dispatch
  - clarify that UFE will not be allocated to distribution-connected generators.

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- **Reliability** - the rule removes the requirement for the RSSR Guidelines to be amended as part of the five minute settlement implementation. Given other changes in the market, it would be more preferable to provide the Reliability Panel with flexibility to decide when to update these guidelines.
- **Regulatory burden** is reduced as the rule:
  - allows AEMO to retain their current method of calculating MLFs using 30 minute data and provides flexibility for AEMO to use shorter resolution data in future.
  - allows AEMO to amend the Spot market operations timetable for minor or administrative changes, without going through a Rules consultation process.
- **Administrative issues and corrections** - the rule clarifies the policy intent of the global settlement rule.

**Reasons for the final rule being a more preferable rule**

Having regard to the issues raised in the rule change request 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. The Commission's reasons are as follows:

- The final rule removes, from the transitional arrangements of the five minute settlement rule, the requirement for the RSSR guidelines to be updated. While minor amendments are likely to be required to the RSSR guidelines to reflect the five minute settlement rule, these amendments are not necessary to assist market participants in their implementation of five minute settlement. Given the flexibility around when the next reliability standards and settings review may occur, and other changes that may need to be considered in relation to the RSSR guidelines, it is more preferable to retain the current flexibility on the timing of when the Reliability Panel is to update the RSSR guidelines.
- The final rule amends the term 'non-market unmetered loads' to 'non-contestable unmetered loads'. This avoids the ambiguity of these loads being called 'non-market' when they are included in market settlements in the global settlement rule. The updated term is more preferable than the term proposed in AEMO's original rule change request in relation to the issue of assigning non-market unmetered loads to a TNI or VTN. The updated term was reflected in AEMO's addendum to their rule change request.

## 3 REASONS FOR MAKING THE RULE - WHOLESALE MARKET OPERATIONS FOR FIVE MINUTE SETTLEMENT

This chapter provides a summary of the issues relating to wholesale market operations for five minute settlement. For each issue in turn, the chapter presents a summary and then details the rule change proposal, stakeholder views and the Commission's final position.

### 3.1 Resolution for calculating MLFs - 30 minutes or shorter

#### BOX 1: SUMMARY

There is currently high industry focus on the methodology for calculating MLFs, due to their effect on wholesale spot prices, and therefore the revenues received by generators. The AEMC has commenced the assessment of two separate rule change requests from Adani Renewables to amend the NER in relation to the transmission loss factors framework in the NEM. The consolidated rule change requests on transmission loss factors will consider the basis of the overall calculation of loss factors, and is broader in scope than the change considered in this rule change request.

The specific amendment made in this final rule will provide AEMO with the flexibility to calculate MLFs using either 30 minute or shorter (e.g. 5 minute) resolution data. The reasons for the Commission's final rule are that:

- It will allow AEMO to retain its current method of calculating MLFs on a 30 minute basis and avoid the requirement on AEMO to update the calculation to be based on 5 minute data.
- There is negligible benefit (minor accuracy improvements) in calculating MLFs on a 5 minute basis instead of a 30 minute basis, as both methods involve the same inputs into the calculation, which are averaged over a whole year.
- It will provide AEMO with flexibility to transition over time from the current approach of using 30 minute resolution data to a shorter resolution in the future when that becomes practicable or if the circumstances allow for it.
- The final rule will not prevent the AEMC from subsequently considering the timing and granularity of the MLF calculation in the Transmission Loss Factors rule change.

#### 3.1.1 Background

##### Current arrangements

Electricity losses in transmission occur as electricity flows from generation to load connection points. The amount of electricity lost during transmission is a function of physics. These

losses need to be priced and factored into electricity prices paid to generators and recovered from customers.

Intra-regional loss factors (IRLFs) represent the marginal transmission losses between a regional reference node (RRN) and a connection point. The common industry term for IRLFs is MLF. MLF's are used for various purposes, including:

- in the NEM dispatch process to refer bid and offer prices from connection points to the RRN
- in the NEM settlement process to calculate settlement prices for connection points
- as locational signals for investment decision-making.

AEMO is responsible for calculating IRLFs and MLFs used in the NEM, in accordance with the NER. Under clauses 3.6.1 and 3.6.2 of the NER, AEMO currently calculates IRLFs for each transmission network connection point using its *Forward looking transmission loss factors methodology*.<sup>13</sup> This involves:

- **Calculating MLFs** - for each 30 minute period for each connection point for the next financial year, using inputs such as connection point energy forecasts, generator availability and generation, and transmission constraints.
- **Calculating IRLFs** - volume weighting the MLFs for each 30 minute period for each connection point (with respect to the RRN) to provide a static value that applies for the whole of the next financial year. So the published IRLF is an annual average.

### **Change made in five minute settlement rule**

From the commencement of the five minute settlement rule, the definition of trading interval will change from 30 minutes to 5 minutes.<sup>14</sup> This means that for AEMO to comply with clause 3.6.2 of the NER, the IRLF would need to be calculated on a 5 minute basis. It would continue to be averaged over the year.

#### **3.1.2**

#### **AEMO's proposal in the rule change request**

AEMO suggests there is negligible benefit in calculating MLFs on a 5 minute basis as the current NER (clause 3.6.2) requires AEMO to calculate each IRLF as an annual weighted average of the MLFs. This means that the outcome under the current 30 minute methodology would be similar to a 5 minute methodology, irrespective of the granularity of the input data.

AEMO suggests that, due to current systems, it would be costly and resource-intensive to update the offline calculation tool to calculate 5 minute MLFs.<sup>15</sup> Therefore, AEMO suggests retaining the current approach of calculating MLFs on a 30 minute basis and provide flexibility by enabling MLFs to be calculated on a shorter time period in future if there is a case to do so (e.g. data systems are updated for other reasons).

AEMO notes that:

<sup>13</sup> AEMO, *Forward looking transmission loss factors methodology*, version 7, 8 February 2017.

<sup>14</sup> AEMC, *Five minute settlement*, Rule determination, 28 November 2017, p.iv.

<sup>15</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.6.



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- There have been large changes in year-on-year IRLFs, such that AEMO has initiated work with industry on whether the methodology is fit for purpose.
- The AEMC is separately considering two rule change requests from Adani Renewables relating to the transmission loss factors framework in the NEM.<sup>16</sup>

**3.1.3**

**Stakeholder views**

Stakeholders, including EnergyAustralia, Red and Lumo Energy and Origin,<sup>17</sup> supported the proposal.

In addition, stakeholders noted the following:

- AGL highlighted the AEMC's ongoing work to review the MLF framework and considered that the interaction with five minute settlement should be reconsidered once these review processes have been finalised.<sup>18</sup>
- Origin noted that the amendment in this rule change should not preclude the AEMC from making subsequent changes to the granularity and timing of MLF calculations through other rule change processes.<sup>19</sup>
- Red and Lumo Energy did not agree with AEMO's proposition that there would be negligible benefit in calculating MLFs on a five minute basis, instead of the current method based on 30 minute data. However Red and Lumo Energy were reasonably satisfied that the MLF outcome would be broadly similar under the current methodology or five minute data.<sup>20</sup>

**3.1.4**

**Commission's final position**

The Commission has made the final rule on the basis that:

- It will allow AEMO to retain its current method of calculating MLFs on a 30 minute basis and avoid the requirement on AEMO (in the five minute settlement rule) to update the calculation to be based on 5 minute data. There are not expected to be any additional costs for AEMO to implement the proposed rule because it maintains the status quo.<sup>21</sup>
- There is expected to be negligible benefit (minor accuracy improvements) in calculating MLFs on a 5 minute basis instead of a 30 minute basis. This is because both methods involve the same inputs into the calculation, which are averaged over a whole year, meaning that the outcomes are similar irrespective of the granularity of the input data.
- It provides AEMO with flexibility to transition over time from the current approach of using 30 minute resolution data to a shorter (e.g. 5 minute) resolution in the future when that becomes practicable or if circumstances allow for it.

16 For more information on the Transmission Loss Factors rule change process, see <https://www.aemc.gov.au/rule-changes/transmission-loss-factors>

17 Submissions on consultation paper: EnergyAustralia, p.1; Red and Lumo Energy, p.3; Origin p.1.

18 AGL, submission on consultation paper, p.3.

19 Origin, submission on consultation paper, p.1.

20 Red and Lumo Energy, submission on consultation paper, p.3.

21 AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.14.

In response to other comments from stakeholders, the Commission notes that this rule amendment will not prevent the AEMC from making subsequent changes to MLF calculations through other rule change processes. Through the separate rule change request on *Transmission Loss Factors*, the AEMC will consider the basis of the overall calculation of loss factors, which is broader in scope than the specific rule amendment made in this rule change.

## 3.2 Accommodating fast-start plant into pre-dispatch

### BOX 2: SUMMARY

AEMO's rule change request sought to remove the inconsistency between the pre-dispatch schedule and dispatch for fast-start plant under five minute settlement, by enabling AEMO to incorporate fast start inflexibility profiles in the pre-dispatch schedule.

The reasons for the Commission's final rule are:

- It supports a key purpose of the five minute settlement rule - to provide incentives for fast-start plant (i.e. fast start generators and batteries) to respond to supply and demand changes in the shortest timeframe practicable.
- If dispatch inflexibility profiles are not allowed to be taken into account in the pre-dispatch schedule, it may reduce the ability of fast-start plant to comply with their pre-dispatch schedule obligations. This may restrict the ability of fast start plant to participate in the wholesale electricity market.

### 3.2.1

#### Background

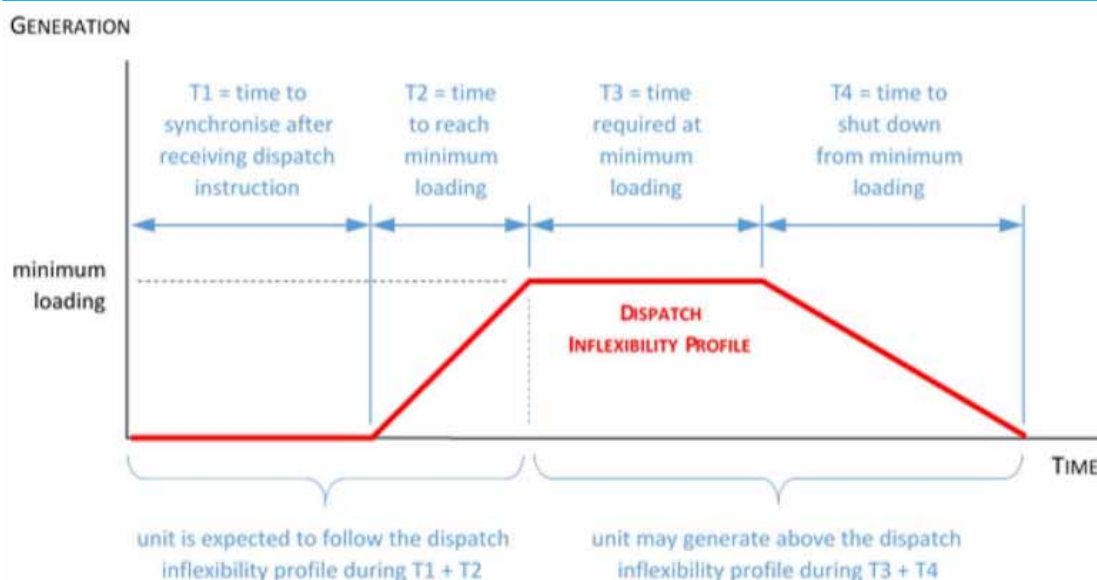
##### Current arrangements

Dispatch inflexibility profiles are commonly known as fast start inflexibility profiles. They include the:

- required time (T1) to increase loading from 0 MW after receiving a dispatch instruction
- required time (T2) to reach minimum load
- required time (T3) at minimum load
- required time (T4) to decrease loading from minimum load to zero

Figure 3.1 illustrates fast start inflexibility profiles.

**Figure 3.1: Fast start inflexibility profile for a generator**



Source: AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p7.

Under the current arrangements, fast start inflexibility profiles are incorporated into dispatch, but are prohibited from being incorporated into the pre-dispatch schedule. The current arrangements, specifically, are:

- **Pre-dispatch** - NER clause 3.8.20(d) states that in determining the pre-dispatch schedules AEMO shall not take account of any dispatch inflexibility profile. This clause was in version 1 of the NER,<sup>22</sup> and AEMO suggests a plausible explanation is that because fast-start plant can synchronise and reach minimum load within 30 minutes, and because pre-dispatch had a 30 minute resolution, fast start inflexibility profiles were considered an unnecessary sophistication when calculating pre-dispatch.<sup>23</sup>
- **Dispatch** - fast start inflexibility profiles are used when a generator wants a unit to be committed through the central dispatch process. They ensure that dispatch instructions reflect the physical capabilities of the generating unit. Only generating units that can synchronise and reach minimum load in less than 30 minutes can be committed in this way.

### Change made in five minute settlement rule

The Five minute settlement rule in NER cl. 3.8.20(b) requires AEMO to also provide a pre-dispatch schedule covering each 5 minute trading interval for a minimum of 60 minutes prior to dispatch.<sup>24</sup> As a voluntary initiative, AEMO currently provides a 5 minute pre-dispatch schedule for 60 minutes prior to dispatch.

<sup>22</sup> It is noted that NER clause 3.8.20(d) was in version 1 of the NER, so likely came from the previous Electricity Code.

<sup>23</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.7.

<sup>24</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.7.

Once it is mandated under the NER (from 1 July 2021), under NER clause 3.8.20(g), fast start plant will need to ensure that it is able to dispatch its relevant plant as required under the 5 minute pre-dispatch schedule or else rebid.

### 3.2.2 AEMO's proposal in the rule change request

AEMO suggested in its rule change request that NER clauses 3.8.20(d) and 3.8.20(g) would be mutually incompatible under five minute settlement, and therefore proposed that NER clause 3.8.20(d) be deleted.<sup>25</sup> The relevant clauses are:

- NER clause 3.8.20(d) prevents AEMO from taking account of dispatch inflexibility profiles in determining the 5 minute pre-dispatch schedule
- NER clause 3.8.20(g) requires fast-start plant to be able to dispatch their relevant plant in accordance with the 5 minute pre-dispatch schedule, or else rebid.

AEMO suggests it may be impossible for fast start plant to comply, no matter how often and diligently they rebid.<sup>26</sup> For example if the pre-dispatch schedule does not account for the restriction that a particular fast start plant takes 10 minutes to start generating, that generator may be scheduled to start supplying power from the moment its offer price is less than the clearing price in 5 minute pre-dispatch, even though it is physically incapable of this. The plant may then need to rebid their availability to zero to comply, preventing their participation in the market.

Figure 3.2 below summarises the current and proposed arrangements relating to fast-start inflexibility profiles in pre-dispatch and the dispatch process.

**Figure 3.2:** Current arrangements and proposed change to include fast-start inflexibility profiles in pre-dispatch

	Pre-dispatch schedule		Dispatch
Time before dispatch:	24 hours	60 mins	0 mins
<b>Current arrangements</b>			
30 minute resolution	Does not take into account fast start inflexibility profiles		n/a
5 minute resolution		*Cannot take into account fast start inflexibility profiles	Fast start inflexibility profiles taken into account
<b>Proposed change in this rule change request</b>			
30 minute resolution	Does not take into account fast start inflexibility profiles		n/a
5 minute resolution		*May take into account fast start inflexibility profiles	Fast start inflexibility profiles taken into account

Source: AEMC

<sup>25</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.8.

<sup>26</sup> *Ibid*, p.8.

### 3.2.3

#### Stakeholder views

Stakeholders supported the proposed rule amendment:

- AGL and EnergyAustralia supported the proposed amendment. AGL suggested that without this change, AEMO would have dispatch issues and generators would likely struggle with dispatch and bidding / rebidding requirements.<sup>27</sup>
- Red and Lumo Energy suggested that the proposal will ensure that fast start inflexibility profiles are applied to pre-dispatch, ensuring dispatch instructions reflect the physical capability of the plant.<sup>28</sup>

### 3.2.4

#### Commission's final position

The Commission's final rule:

- Removes the inconsistency between the pre-dispatch schedule and dispatch for fast start plant under five minute settlement, by enabling AEMO to incorporate fast start plant inflexibility profiles in the pre-dispatch schedule. This allows, but does not require, AEMO to take fast start plant inflexibility profiles into account in the pre-dispatch schedule.
- Supports a key purpose of the five minute settlement rule; to provide incentives for fast start plant (i.e. fast start generators and batteries) to respond to supply and demand changes in the shortest timeframe possible.

The implementation cost of this rule is not expected to be material. In its rule change request, AEMO stated that there would be no incremental cost of implementing the rule because AEMO already produces a voluntary five-minute pre-dispatch that includes fast start inflexibility profiles.<sup>29</sup> AEMO subsequently clarified to the AEMC that while it does already voluntarily produce a five-minute pre-dispatch, this does not currently include fast-start inflexibility profiles. AEMO stated the cost to include fast start inflexibility profiles in five-minute pre-dispatch is not expected to be material.

## 3.3

### Correction to list of AEMO procedures for five minute settlement

#### BOX 3: SUMMARY

This rule change request proposed to transfer the obligation, in the transitional provisions of the five minute settlement rule, for amending the Reliability standards and settings (RSSR) guidelines from AEMO to the Reliability Panel. AEMO noted in its rule change request that there was an error made at the time in placing this obligation on AEMO, as it has no authority to amend the RSSR guidelines. It is the Reliability Panel's responsibility to make and amend the RSSR guidelines.

<sup>27</sup> Submissions on consultation paper: AGL, p.3; EnergyAustralia, p.1.

<sup>28</sup> EnergyAustralia, submission on consultation paper, p.3

<sup>29</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, Table 4.1, p.15.

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AEMO suggests that it may have been possible that AEMO's Reliability Standard Implementation Guideline (RSIG) were instead intended to be included in the five minute settlement transitional arrangements. However AEMO has confirmed that the RSIG does not need to be amended to implement the five minute settlement rule.

The Commission's final rule removes the requirement from the five minute settlement rule for the RSSR guidelines to be updated. The Commission considers that:

- While minor amendments are likely to be required to the RSSR guidelines to reflect the five minute settlement rule, these amendments are not necessary to assist market participants in their implementation of five minute settlement.
- As there is some discretion as to when to complete the next reliability standard and settings review, and factors additional to five minute settlement may need to be considered in updating the RSSR guidelines, it is preferable to retain the current scheduling flexibility regarding when the Reliability Panel is to update the RSSR guideline. Therefore the Commission does not consider that a set deadline is required for amendment of the RSSR guidelines.

### 3.3.1

#### Background

The five minute settlement rule inserted a new transitional clause<sup>30</sup> that lists the procedures and documents that need to be reviewed and amended to implement five minute settlement. This transitional clause requires AEMO, the AER and the Information Exchange Committee to review and amend their relevant procedures, generally by 1 December 2019. This clause included a requirement for AEMO to update the RSSR guidelines.<sup>31</sup>

The RSSR guidelines set out the principles and assumptions that the Reliability Panel will use in conducting its four-yearly review of the reliability standard and settings. It is the Reliability Panel's responsibility to develop and publish, and amend from time to time, the RSSR guidelines.<sup>32</sup>

### 3.3.2

#### AEMO's proposal in the rule change request

##### RSSR guidelines

AEMO notes that, as the Reliability Panel determines the RSSR guidelines under clause 3.9.3A of the NER, the inclusion of the RSSR guidelines in the list of documents to be reviewed and amended by AEMO under clause 11.103.2(a) appears to be an error. AEMO notes that it has no authority to review the RSSR guidelines, which are to be made and amended by the Reliability Panel.<sup>33</sup>

30 NER clause 11.103.3

31 AEMC, *National Electricity Amendment (Five minute settlement) Rule 2017 No. 15*, p.39.

32 NER clause 3.9.3A.

33 AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, pp.8-9.

AEMO notes that the RSSR guidelines will likely require some amendments to reflect the five minute settlement rule. For example, changing references from 'dispatch interval' to 'trading interval' and the number of trading intervals in the cumulative price threshold. AEMO therefore proposed that the RSSR guidelines be:

- Removed from the list of AEMO documents that need to be reviewed, and where necessary amended, to reflect the five minute settlement rule.
- Retained in the transitional provisions for review, and where necessary amendment, by the Reliability Panel.

### **RSIG**

The RSIG sets out how AEMO must implement the reliability standard. The RSIG must include the approach AEMO will use and the assumptions it will make in relation to a range of factors, including demand for electricity, the reliability of existing and future generation, and energy constraints and network constraints. It is AEMO's responsibility to develop and publish, and amend from time to time, the RSIG.<sup>34</sup>

AEMO suggests that it may have been possible that AEMO's RSIG were intended to be included in the five minute settlement transitional clause. However AEMO has confirmed that the RSIG does not need to be amended to reflect the five minute settlement rule and therefore it does not need to be included in the transitional clause.

### **3.3.3**

#### **Stakeholder views**

Stakeholders including AGL, EnergyAustralia, and Red and Lumo Energy supported AEMO's proposed amendment.<sup>35</sup> Stakeholders made the following comments:

- AGL considered that the obligation had been incorrectly placed on AEMO and proposed it instead apply to the Reliability Panel, potentially with a new completion deadline.
- Red and Lumo Energy supported AEMO's proposal to retain the review of the RSSR guidelines in the transitional arrangements, and to transfer the obligation to review these guidelines from AEMO to the Reliability Panel.

### **3.3.4**

#### **Commission's final position**

The Commission's final rule removes the requirement for the RSSR guidelines to be updated from the transitional provisions of the five minute settlement rule. The Commission's reasoning is as follows:

- AEMO has no authority to amend the RSSR guidelines, which is the responsibility of the Reliability Panel.
- The key purpose of the transitional arrangements was to set out a staged process to ensure market participants were ready for the commencement of five minute settlement on 1 July 2021. The arrangements establish the industry procedures and methodologies that need to be updated by December 2019 to reflect five minute settlement. With

<sup>34</sup> NER clause 3.9.3D.

<sup>35</sup> Submissions on consultation paper: AGL, p.21; EnergyAustralia, p.1; Red and Lumo Energy, p.3.

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industry procedures updated by end 2019, market participants would then have enough time to update their own processes and systems to meet these new requirements before five minute settlement commences.

- Only minor amendments are likely to be required to the RSSR guidelines to reflect the five minute settlement rule (e.g. changing references from 'dispatch interval' to 'trading interval' and the number of trading intervals in the cumulative price threshold). These updates are not necessary to assist market participants in updating their own process and systems in preparation for the commencement of the five minute settlement rule.

The Commission has not included a set deadline for amending the RSSR guidelines in the rule for the following reasons:

- Given the transition underway in the NEM, and a number of changes in the sector since the last time the reliability standard and settings were reviewed,<sup>36</sup> the Reliability Panel is already aware that the RSSR guidelines will require a review prior to commencement of the next reliability standard and settings review.
- The next reliability standard and settings review is expected to commence in 2021 and consider the standard and market settings to apply from 2024 to 2028. However, the review may commence earlier, particularly if the AER's value of customer reliability findings reveal that there is a material change in the value of customer reliability. Therefore, 2021 is likely to be the latest date for updating the RSSR guidelines.
- Given the flexibility around when the reliability standards and settings review will occur, the Commission considers it appropriate to retain the current flexibility as to when the Reliability Panel is to amend the RSSR guidelines.<sup>37</sup>

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36 For example, the introduction of the retailer reliability obligation, introduction of five minute settlement, the publication of the AER's value of customer reliability (VCR) figures at the end of 2019, and the appropriateness of the reliability standard in the enhancement to the Reliability and Emergency Reserve Trader (RERT) final determination.

37 NER clause 3.9.3A



## 4 REASONS FOR MAKING THE RULE - CLARIFYING GLOBAL SETTLEMENT ARRANGEMENTS

This chapter summaries each issue aimed at clarifying the arrangements for global settlements. It then details the rule change proposal, stakeholder views and the Commission's final position.

### 4.1 Assigning non-contestable unmetered loads to TNI or VTN

#### BOX 4: SUMMARY

The rule change request proposed to clarify the global settlements rule to ensure that the costs of loads such as public BBQs, lighting for sports ground and NBN cabinets (in future to be termed 'non-contestable unmetered loads') are accurately matched to, and thereby paid for, by the respective franchise customer (local council or telecommunications company). AEMO claimed that the current wording of the rules is unclear and that one interpretation could be that each load's network connection point should be assigned to the same (single) TNI/VTN. AEMO stated that the rules should be clear that these connection points should be able to be assigned to the TNI or VTN that is most appropriate, as was intended in the Global settlement rule.

The Commission's final rule provides for these loads to be assigned to the TNI or VTN that is most appropriate. The rule also amends the term for these loads, from 'non-market unmetered loads' to 'non-contestable unmetered loads'.

#### 4.1.1 Background

##### Current arrangements

This issue relates to the assignment of unmetered non-contestable loads to the appropriate TNI or VTN for the purposes of market settlement.<sup>38</sup> Unmetered non-contestable loads include sports ground lighting, public BBQ's, NBN cabinets and bus shelters. These loads do not meet the criteria for type 7 metering installations because they do not meet the minimum acceptable standard for Type 7 metering arrangements, which require metering data to be calculated, determined, processed and delivered in accordance with the metrology procedure.

These loads are non-contestable customers that are supplied off market by the local retailer. The consumption and costs of those loads are agreed between the local retailer, local network service provider, and the local council or telecommunications company. As such,

<sup>38</sup> A Transmission Node Identifier (TNI) is a code for the metering installation at the point where energy is supplied to the distribution network from the transmission substation. Alternatively, a number of adjacent transmission node connection points used to supply a single distribution local area can, with the approval of the AER, be aggregated to form a Virtual Transmission Node (VTN). AEMC, *Global settlement and market reconciliation*, Rule determination, 6 December 2018, p.4.

these loads would form part of unaccounted for energy (UFE), if not specifically settled in the NEM.

UFE are residual electrical losses in a local area. UFE is made up of:

- errors in the distribution loss factor
- commercial losses (e.g. electrical theft, inaccurate meters, estimation errors for unmetered devices), and
- estimation errors for profiling meters.

#### **Change made in global settlement rule**

The global settlement rule identified and removed non-market unmetered loads to avoid double counting in the calculation of UFE. It did so by:

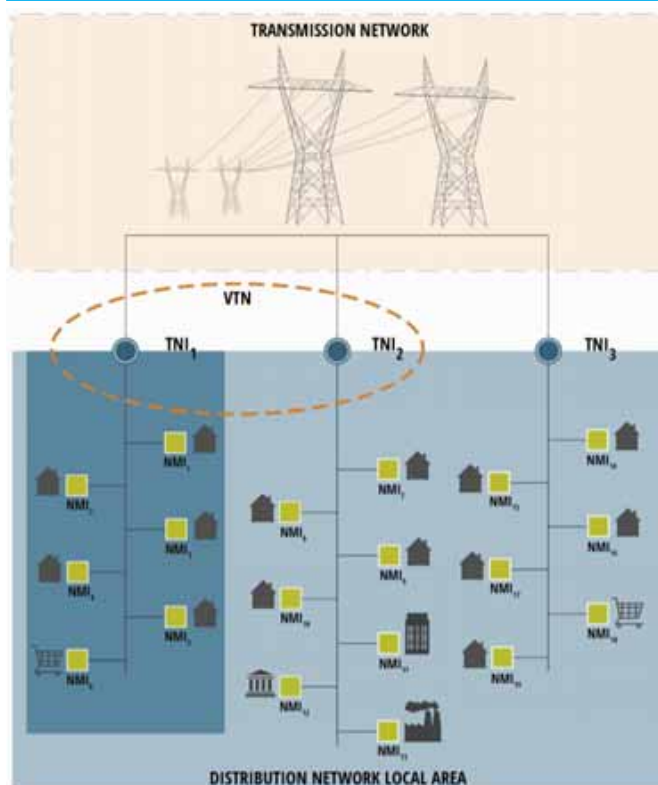
- Processing unmetered loads through MSATS.
- The customer, local network service provider and local retailer agreeing on the load profile and size in accordance with AEMO's updated metrology procedures and unmetered load guidelines.
- AEMO updating its metrology procedures and unmetered load guidelines to allow for the creation of NMIs for non-market unmetered loads and assigning non-market unmetered load connection points to a TNI or VTN.

Figure 4.1 illustrates transmission and distribution connection points, including a VTN, TNIs and National Metering Identifiers (NMIs).<sup>39</sup>

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<sup>39</sup> A National Metering Identifier (NMI) is a code for each metering installation measuring the energy at a customer's connection to the distribution network. AEMC, *Global settlement and market reconciliation*, Rule determination, 6 December 2018, p.4.

**Figure 4.1:** Transmission and distribution network connection points



Source: AEMC, *Global settlement and market reconciliation*, Rule determination, 6 December 2018, p5.

#### 4.1.2 AEMO's proposal in the rule change request

AEMO suggested that the wording of the global settlement rule requiring the assignment of non-market unmetered load connection points to TNI or VTN could be read as requiring all unmetered loads in a given network area to be assigned to the same (single) TNI or VTN. To avoid ambiguity, AEMO suggested it would be preferable to clarify that each non-market unmetered load should be assigned to the TNI or VTN that is most appropriate.

#### 4.1.3 Stakeholder views

AEMO's proposal was supported by some stakeholders. Other stakeholders raised concerns or asked that greater specification be included, including in AEMO's procedures.

The rule change proposal was supported by AusNet Services,<sup>40</sup> Red and Lumo Energy,<sup>41</sup> EnergyAustralia<sup>42</sup> and Energy Queensland.<sup>43</sup> Energy Queensland however noted that

40 AusNet Services, consultation paper submission, p.1.

41 Red Energy and Lumo Energy, consultation paper submission, p.3.

42 EnergyAustralia, consultation paper submission, p.1.

43 Energy Queensland, consultation paper submission, p.1.

significant work would be required for their network businesses (Energex and Ergon) to identify and allocate some sites.<sup>44</sup>

AGL noted that having all loads allocated to a single VTN would make it hard to identify and reduce the sources of unaccounted for energy within those areas. AGL suggest that:<sup>45</sup>

- Where there no interconnections between transmission nodes (e.g. rural areas) that unmetered loads should be allocated to the TNI.
- Where there are substantial load transfers across various transmission nodes (generally metropolitan areas), then those unmetered loads should be allocated to a VTN representing those transmission nodes where load is shared.
- Segregation of unmetered loads within the TNI's will make the identification and remediation of issues within those areas more efficient.

Origin supported the intent of the rule change proposal, however considered that further specificity could be required in the associated AEMO metrology procedures and/or as part of an unmetered load guideline. Origin was concerned that non-market unmetered loads could be aggregated in a way that gives rise to inaccurate UFE calculations.<sup>46</sup> To address this, Origin suggest that AEMO's metrology procedures and/or an unmetered load guideline should be required to specify that:

- All non-market unmetered loads are to be assigned a NMI that is tied to the same high voltage feeder and same TNI.
- Aggregation of non-market unmetered loads should be limited to assets of the same type, within the same geographic location and same customer.

#### 4.1.4

#### **Commission's final position**

The Commission supports the principle of AEMO's proposal to clarify that each non-market unmetered load should be assigned to the TNI or VTN that is most appropriate.

The rule also amends the Chapter 10 definition used for these loads, from 'non-market unmetered loads' to 'non-contestable unmetered loads'. This avoids the ambiguity of these loads being called 'non-market' when they will be included in market settlements when global settlement commences. The revised term reflects the updated term in AEMO's addendum to their rule change request. This change is also reflected in the amendment on 'all customer loads to be market loads' in section 4.3 of this final determination.

The reasons for the rule amendment are that:

- It clarifies the policy intent of the Global settlement rule; that connection points relating to unmetered non-market loads are to be assigned to a single TNI or VTN. The rule amendment clarifies that each unmetered non-market load can be assigned to the TNI or

<sup>44</sup> Ibid, p.1.

<sup>45</sup> AGL, consultation paper submission, p.3.

<sup>46</sup> Origin cited the example where a customer has multiple non-metered loads of a similar type (e.g. public phones) across various geographic locations within a network, and suggested in this case AEMO's proposal would allow a network service provider to aggregate these loads under a single NMI and assign them to a TNI. This would result in a loss factor being applied to a group of assets that may not accurately reflect the location of those assets in the network.

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VTN that is most appropriate rather than being assigned to the same (single) TNI/VTN. This provides flexibility in how these loads are assigned.

- There are not expected to be any incremental implementation costs from the proposed rule, as it has no impact on the process and effort of assigning non-contestable unmetered loads in MSATS.<sup>47</sup>

The Commission's views on AGL and Origin's suggestions are as follows:

- AEMO should have discretion as to how to allocate unmetered loads in the cases where there are no interconnections between transmission nodes (i.e. in rural areas), as AEMO has already been consulting with industry on this issue.
- In locations where substantial loads are transferred across transmission points (e.g. in metropolitan areas), then AEMO's procedures should give AEMO discretion in how to allocate these unmetered loads and whether they should be allocated to a VTN (as suggested by the stakeholder). This issue is out of scope for this rule change as the decision to create a VTN is made by the relevant DNSP and the AER.<sup>48</sup>
- In terms of requiring AEMO to specify the assignment of NMIs and aggregation of non-contestable unmetered loads in their metrology procedures and unmetered load guideline, the Commission notes that AEMO has commenced consultation with industry on these matters. These are matters to be considered by AEMO through their consultation process on this procedure and guideline.

## 4.2 Removing retailer financial responsibility for transmission/distribution boundary points

### BOX 5: SUMMARY

This rule change request sought to realise the policy intent of the global settlements rule of apportioning the costs of UFE between all retailers, rather than UFE costs being borne solely by the local retailer. It proposed to do so by removing remaining references in the rules to the local retailer having financial responsibility at a transmission/distribution boundary point.

The Commission's final rule:

- clarifies that no retailer has financial responsibility at a transmission / distribution boundary point
- implements the global settlement framework as intended
- enables NEM settlements to be reconciled, providing more accurate information to the market.

<sup>47</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.16.

<sup>48</sup> A VTN can be used where there are technical difficulties assigning a connection point to a specific TNI, or to implement a jurisdictional price policy (in the case of South Australia).

#### 4.2.1

##### Background

###### Current arrangements

Under the current NEM 'settlement by difference' framework, local retailers have financial responsibility for connection points that connect distribution networks to the transmission network. This means the local retailer is invoiced the UFE based on the amount of electricity that was measured at transmission/distribution boundary points, minus the electricity directly invoiced to the independent retailer(s) in the local area.

###### Change made in global settlement rule

The global settlement framework aims to improve competition and risk allocation by:<sup>49</sup>

- apportioning UFE to all retailers based on their accounted for energy within each local area
- calculating each retailer's settlement amount as the sum of its loss-adjusted energy consumption and share of UFE
- removing the need for retailers to have financial responsibility at transmission/distribution boundary points.

The global settlements rule:

- amended NER clause 3.15.4(a) to describe how the adjusted gross energy amounts are calculated for each market connection point that is a transmission network connection point (i.e. at transmission/distribution boundary points)
- amended NER clause 3.15.3 to assign financial responsibility for market connection points.

#### 4.2.2

##### AEMO's proposal in the rule change request

AEMO suggested that the NER, as amended by the global settlements rule, do not fully reflect the policy intent of removing retailer financial responsibility at transmission/distribution boundary points. Table 4.1 presents the two amendments proposed by AEMO.

<sup>49</sup> AEMO, *Addendum to five minute settlement and global settlement implementation amendments rule change request*, 13 May 2019, p.3.

**Table 4.1: AEMO's proposed changes to global settlement rule to remove retailer financial responsibility at transmission / distribution boundary points**

NER CLAUSE	ADJUSTMENTS TO NER	
	MADE IN GLOBAL SETTLEMENT RULE	PROPOSED IN THIS RULE CHANGE REQUEST
2.3.4(h)	No change.	Remove entire clause. <del>"A Customer who is also a Local Retailer must classify any connection point which connects its local area to another part of the power system as a market load".</del>
3.15.3(b)	Previous cl. 3.15.3(b) omitted and replaced with: "No person is financially responsible for a virtual transmission node".	Further amend clause to: "No person is financially responsible for a virtual transmission node <u>or a connection point which connects a local area to another part of the power system</u> ".

#### 4.2.3

#### Stakeholder views

Most stakeholders supported the proposal. However, several stakeholders raised concerns and suggested an additional change to the rule change proposal. Specifically:

- AusNet considered that removing retailer financial responsibility for transmission and distribution boundary points would resolve uncertainty for contracting the metering coordinator for such sites.<sup>50</sup>
- AGL suggested the rule amendment should commence earlier (i.e. before 1 July 2020) to give DNSPs time and the accountability for undertaking any works required at boundary points, to enable UFE to be calculated for the global settlement rule:<sup>51</sup>
  - AGL noted that, if works are required at transmission and distribution boundary points, this must occur prior to 1 July 2021 if AEMO is to calculate UFE for the global settlements 'soft start' period as intended.
  - Further, any works must be completed by 6 February 2022 when global settlement commences and participants will be settled on UFE.
  - AGL noted that, under the current arrangements, the obligations to appoint a metering coordinator and be responsible for undertaking any works required at

<sup>50</sup> AusNet, submission on consultation paper, p.1.

<sup>51</sup> AGL, submission on consultation paper, pp.1,2 and 4.

boundary points resides with retailers until 6 February 2022. At this time, AGL suggested that it was unclear if there would be a need to transfer the metering coordinator appointment to the relevant distribution network or if the retailer would retain responsibility for those installations constructed prior to 6 February 2022.

- As such, AGL proposed that rule 7.6.2(a)(2A)<sup>52</sup> commence earlier -- for instance on 1 July 2020 rather than the current 6 February 2022 -- to ensure clarity of obligations in the lead up to the start of five minute settlement and global settlement.
- Red and Lumo Energy did not support the proposal unless a methodology was in place that would enable Red and Lumo Energy to verify the proportion of UFE allocated to it under global settlement.<sup>53</sup>

#### 4.2.4

#### Commission's final position

The Commission's final rule:

- Clarifies that no retailer has financial responsibility at a transmission / distribution boundary point.
- Implements the global settlement framework as intended, by enabling NEM settlements to be accurately calculated and reconciled. If the rule were not made, the local retailer would be financially responsible for the UFE and metered energy for all transmission / distribution boundary points as well as for their customers' distribution connection points in the local area. This would result in double counting of the associated energy and incorrect settlement outcomes.<sup>54</sup>

The Commission's view on the issues that AGL, and Red and Lumo, raised, is set out below:

- AGL suggested that the commencement of the rule be brought forward (e.g. to 1 July 2020) to ensure clarity of obligations in the lead up to the start of five minute settlement and global settlement. The Commission supports clear accountability between transmission and distribution networks at boundary points when these rules commence. However, the Commission considers that changing the date when responsibility for transmission and distribution boundary points changes from local retailers to DNSPs was not part of the original rule change request. Therefore, it is outside the scope of this expedited rule change process.
- Red and Lumo suggested that a methodology needed to be in place to verify the proportion of UFE allocated under global settlement. The Commission notes that AEMO is in the process of amending their procedures for global settlement. The Commission expects that AEMO's amended procedures will include a methodology that enables retailers to verify the UFE allocated to it under global settlement, addressing Red and Lumo's issue.

<sup>52</sup> AGL stated that this proposal related to rule 7.6.2(2A) of the NER. The Commission clarifies that the rule referred to is instead rule 7.6.2(a)(2A) of the NER.

<sup>53</sup> Red and Lumo Energy, submission on consultation paper, p.2.

<sup>54</sup> AEMO, *Addendum to Five minute settlement and global settlement implementation amendments rule change request*, 13 May 2019, p.8.



## 4.3 Clarifying that customer loads are market loads

### BOX 6: SUMMARY

This rule change request sought to realise the policy intent of the global settlement rule that non-market unmetered loads (e.g. public BBQ's, street lighting and NBN cabinets) are accounted for in settlement. Under global settlement all customer connections must be classified as market loads, so they can be settled through the NEM.

The Commission's final rule:

- Clarifies that these unmetered loads are to be classified as market loads. This allows them to be accounted for in settlement, removed from UFE and continued to be paid for by local councils and telecommunications companies.
- Avoids unmetered loads being incorrectly distributed to other retailers as part of the UFE calculation.
- Improves terminology by revising the term 'non-market unmetered loads' to be 'non-contestable unmetered loads'. This is consistent with the change in terminology for these loads in the other rule amendment in this rule change request on assigning unmetered loads to TNI or VTN.

### 4.3.1

#### Background

##### Current arrangements

Non-market unmetered loads that do not meet the criteria for type 7 metering installation include sports ground lighting, public BBQ's, NBN cabinets and bus shelters.

These loads are non-contestable customers that are settled out of the market through a negotiated agreement. The consumption and costs of those loads are agreed between the local retailer, local network service provider and the local council or telecommunications company. The local council or telecommunications company pays the local network service provider and local retailer for network provision and the energy, respectively, associated with these loads.

Currently, these unmetered loads that do not meet the criteria for type 7 metering installation, do not enter NEM settlements, are served by the local retailer and are therefore part of 'settlement by difference'.

##### Change made in global settlement rule

The global settlement rule requires non-market unmetered loads to be accounted for in settlements and removed from UFE. This avoids retailers being charged for load that the local retailer is being paid for. The global settlement rule defines these loads as "*unmetered load that does not meet the criteria in the Rules or procedures authorised under the Rules for classification as a type 7 metering installation*".

The global settlement rule captures non-market unmetered loads in settlements through an obligation on AEMO to update its metrology procedure to require:

- the creation of NMI for each non-market unmetered load
- assign each non-market unmetered loads NMI to an appropriate TNI or VTN
- a methodology for calculating a load and load profile for non-market unmetered loads, and
- estimates of non-market unmetered load volumes to be included in settlements.

#### 4.3.2

##### **AEMO's proposal in the rule change request**

AEMO noted that the intent of the global settlement rule is for non-market unmetered loads to be accounted for in settlements and removed from UFE. For this to occur, these loads need to be:

- classified as market loads so this classification can be reflected in MSATS and settlement can occur through the NEM
- charged to the local retailer.

As the NER currently do not provide for non-market unmetered loads to be classified as market loads, AEMO proposed the following amendments:

- amend NER clause 2.3.4(a) to ensure that a market classification requirement applies to all customer loads (i.e. changing from 'may' to 'must'), including contestable loads purchased from the entity who is the local retailer
- introduce a new NER clause 2.3.4(i) requiring local retailers to classify any connection points in its local area at which electricity is purchased by franchise customers (including non-market unmetered loads) as market loads
- amend new NER clause 7.16.3(c)(6A) to require AEMO's metrology procedures to include non-market unmetered loads that have been classified as market loads in settlements, and change the defined term from 'non-market unmetered load' to 'non-contestable unmetered load'.

#### 4.3.3

##### **Stakeholder views**

Stakeholders supported the proposed rule, however one stakeholder considered that the term 'non-contestable' was not suitable.

- Energy Queensland, EnergyAustralia and Red and Lumo Energy all supported the proposal.<sup>55</sup>
- AGL supported the proposal, but did not consider that the term 'non-contestable' was suitable. AGL notes that AEMC advice was that their present status of being non-contestable could be amended through a rule change process.<sup>56</sup>

<sup>55</sup> Submissions on consultation paper, Energy Queensland, p.1; EnergyAustralia, p.1; Red and Lumo Energy, p.4.

<sup>56</sup> AGL, submission on consultation paper, p.4.

#### 4.3.4 Commission's final position

The Commission has decided to make the rule as proposed.

The reasons for the rule amendment are that:

- It avoids unmetered loads being incorrectly distributed to other retailers as part of the UFE calculation.
- Improves terminology by revising the definition of 'non-market unmetered loads' to 'non-contestable unmetered loads'. The loads must be non-contestable. In addition, this change avoids the ambiguity of calling these loads 'non-market' when they will be included in market settlements when global settlements commences.
- The proposed rule is not expected to result in any additional costs to existing and planned five minute settlement and global settlement implementation costs.<sup>57</sup>

The AEMC notes the discussion between AGL and the AEMC during the Global settlement rule change process, in which the AEMC stated that the present status of these unmetered loads being non-contestable could be amended through a rule change.

## 4.4 Clarifying that UFE will not be allocated to distribution-connected generators

### BOX 7: SUMMARY

This rule change request sought to realise the policy intent of the global settlement rule that UFE costs be only allocated to market customers when they are net consumers of energy, and not to distribution connected generators. Under the global settlement framework, the cost of UFE is only allocated to retailers, as they are best placed to manage the risk and are therefore provided with improved incentives to reduce it.

The Commission's final rule:

- Clarifies that UFE is allocated to market customers when there is a net flow of energy from the grid to the market customer's connection point.
- Clarifies that UFE is *not to be allocated* to market customers when there is a net flow of energy from the market customer's connection point to the grid.
- Clarifies that UFE is not to be allocated to embedded generators either when they have negative flows (net consuming) from the grid to their connection point or positive flows (net supplying) from their connection point to the grid.

<sup>57</sup> AEMO, *Addendum to five minute settlement and global settlement implementation amendments rule change request*, 13 May 2019, p.9.

#### 4.4.1

### Background

#### Current arrangements

Distribution-connected generators are generators that are connected to the distribution network.

#### Change made in global settlement rule

The policy intent of the global settlement rule was to apportion UFE to all retailers based on their accounted for energy within each local area because retailers are best placed to mitigate the risk of and manage UFE.

AEMO suggests that the current global settlement rule will have the effect of allocating UFE to distribution connected generators if they consume energy. This is because new clause 3.15.5(c) allocates UFE to import energy for every distribution network connection point in the local area.

#### 4.4.2

### AEMO's proposal in the rule change request

The rule change request proposed to clarify that distribution-connected generators would not receive an allocation of UFE. It proposed to amend new clause 3.15.5(c) so that:

- UFE allocated to distribution network connection points in a local area are classified as market loads.
- The definition of ADMELA is applied to market customers rather than market participants.<sup>58</sup>
- For consistency throughout the clause, 'connection point' be replaced with 'market connection point' in the definitions of UFEA,<sup>59</sup> DME<sup>60</sup> and DLF.<sup>61</sup>

#### 4.4.3

### Stakeholder views

The proposal was supported by several stakeholders. One stakeholder raised concerns regarding the drafting of the proposed rule:

- AGL and EnergyAustralia supported the proposed rule. AGL noted that UFE should not be allocated to distribution connected generators; this should apply only to their generation and not their consumption of energy from the market.<sup>62</sup>
- Red and Lumo Energy recognised the aim of the proposed rule, however they suggested that the drafting was unclear regarding the types of generating units that would be

58 AEMO's proposed change to ADMELA is "the aggregate of the amounts represented by DME for that trading interval for each market connection point in that local area, for which a Market Customer Participant (other than a suspended Market Participant) is financially responsible".

59 AEMO proposed to change the definition of UFEA to "the allocation of the unaccounted for energy amount (in MWh) for the relevant market connection point and trading interval"

60 AEMO's proposed to change the definition of DME to "the amount represented by (ME - x DLF) for the relevant market connection point and trading interval..."

61 In its rule change request, AEMO proposed to change the definition of DLF to "the distribution loss factor applicable at that market connection point". AEMO subsequently clarified to the AEMC that this change was made in error, as AEMO intended for the word 'market' to be included in the definition of DLF in NER clause 3.15.5(c).

62 Submissions on consultation paper, AGL, p.4; EnergyAustralia, p.1.

exempt from UFE. Red and Lumo were concerned the proposed rule could be interpreted to apply to all solar households in the NEM.<sup>63</sup>

#### 4.4.4

#### Commission's final position

The Commission final rule:

- Clarifies that UFE is allocated to market customers when there is a net flow of energy from the grid to the market customer's connection point (e.g. market customers that have a negative flow of energy).
- Clarifies that UFE is *not to be allocated* to market customers when there is a net flow of energy from the market customer's connection point to the grid (e.g. a household with solar at times when they are generating and are supplying more energy to the grid than they are consuming).
- Clarifies that UFE is *not to be allocated* to embedded generators either when they have negative flows (net consuming) from the grid to their connection point or positive flows (net supplying) from their connection point to the grid.

The Commission notes AEMO's view that there is no incremental implementation cost to AEMO or market participants from the amendment. AEMO notes that, if the proposed rule is not made:<sup>64</sup>

- AEMO would face additional costs to update MSATS so that it can apportion UFE to distribution connected generators for settlement, and
- Distribution connected generators will be responsible for UFE changes.

<sup>63</sup> Red and Lumo Energy, submission on consultation paper, p.2.

<sup>64</sup> AEMO, *Addendum to five minute settlement and global settlement implementation amendments rule change request*, 13 May 2019, p.9.

## 5 REASONS FOR MAKING THE RULE - INFORMATION PROVISION

This chapter presents for each issue in turn, a summary followed by details of the rule change proposal, stakeholder views and the Commission's final position.

### 5.1 Amending the spot market operations timetable

#### BOX 8: SUMMARY

This rule change request sought to reduce the administrative burden on AEMO and participants by allowing AEMO to make minor or administrative changes to the spot market operations timetable, without the need to run a Rules consultation process (that involves a two stage process that takes at least 4 months).

The Commission's final rule:

- Is consistent with the approach applied for amending a number of other AEMO procedures, where the NER provide that AEMO does not need to follow the Rules consultation procedures for minor or administrative changes.
- Avoids the time and resources required to consult and amend the spot market operations timetable for minor and administrative changes that could be made more easily and in a more timely manner.
- Requires AEMO to notify stakeholders of any changes to the Spot market operations timetable, including those that are minor or administrative.

#### 5.1.1

#### Background

##### Current arrangements

The purpose of the spot market operations timetable is to outline the schedule for key spot market operations, including:<sup>65</sup>

- offers and bids
- short term projected assessment of system adequacy
- energy adequacy assessment projection
- pre-dispatch and dispatch
- market information
- settlement.

The contents of the timetable are largely determined by the NER.

<sup>65</sup> AEMO, *Spot market operations timetable*, version 1.3, October 2016.

Currently, any changes to the spot market operations timetable require AEMO to comply with the Rules consultation procedures. This requires AEMO to conduct a two stage process for consulting on changes to documents made under the NER. At a minimum, the process requires:<sup>66</sup>

- three sets of notices and consultation or determination documents
- receive, consider and respond to submissions from stakeholders as inputs to its draft and final determinations
- a period of 4 months from the time AEMO initiates it, but it can take longer to complete.

### 5.1.2 AEMO's proposal in the rule change request

The rule change request proposed to allow AEMO to make minor or administrative changes to the timetable without the requirement for AEMO to run a full Rules consultation procedures process. This would reduce the administrative burden for changes such as updating information and references to clauses in the Rules, to reflect revisions or new Electricity Rules.

AEMO is not required to follow the Rules consultation procedures in amending some other AEMO procedures for minor or administrative changes. AEMO notes that this avoids the time and resources that AEMO and participants would otherwise need to spend consulting and responding on corrections, updates or other minor changes, which may have been made quickly and are not controversial.<sup>67</sup>

### 5.1.3 Stakeholder views

Stakeholders had mixed views on this rule amendment:

- EnergyAustralia supported removing the Rules consultation process for administrative changes, but not for minor changes. EnergyAustralia acknowledged that the proposed change would align the amendment process for minor or administrative changes with that which applies for other AEMO procedures. They also noted that most elements of the Spot market operations timetable are prescribed in the NER, and the NER take precedence over the timetable in the event of inconsistency. EnergyAustralia did not support removing the requirement for a Rules consultation process for any change that AEMO deems to be 'simple', as AEMO's definition of 'simple' may not be consistent with participants'. EnergyAustralia also wanted clarification on how participants would be formally notified of changes to the Spot market operations timetable.<sup>68</sup>
- AGL noted that while it supports the efficient operation of all markets, what AEMO considers a minor administrative change may have substantial implications for a market participant. Therefore, AGL suggested that for administrative change processes such as this, general practice could be for AEMO to apply a process similar to the AEMC's non-controversial rule change process, to provide the opportunity for participants to provide

<sup>66</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.4.

<sup>67</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.4.

<sup>68</sup> EnergyAustralia, submission on consultation paper, pp.1-2.

feedback. AGL suggested that this would allow AEMO to make minor changes while giving participants some protection against unintended consequences.<sup>69</sup>

- Red and Lumo Energy supported removing the need for a Rules consultation for changes to amend references to NER, but nothing more. Red and Lumo Energy considered it inefficient to run a Rules consultation process for changes to reflect updated NER references following rule changes. However, they did not support enabling AEMO to make any changes beyond what is proposed in a rule change.<sup>70</sup>

#### 5.1.4 Commission's final position

The Commission has determined to make the rule as proposed by AEMO, for the following reasons:

- The proposed approach to timetable amendments is consistent with that applied for amending a number of other AEMO procedures, where the NER provide that AEMO does not need to follow the Rules consultation procedures for minor or administrative changes. In such cases, the Rules always allow for 'minor *and* administrative' changes to be made, as opposed to only allowing for 'minor' changes or 'administrative' changes. The Commission does not consider that a unique approach is appropriate for the purposes of amending the Spot market operations timetable.
- It avoids the time and resources required to consult and amend the spot market operations timetable for minor and administrative changes that could be made more easily and in a more timely manner.
- The majority of the Spot market operations timetable reflects references to the NER and stakeholders were supportive of removing the requirement for a Rules consultation process to make changes to these references. These changes would reflect changes to the NER that have already been determined through a rule change process, which must involve industry consultation.
- The Commission notes stakeholder concerns regarding the need to be notified of any changes to the Spot market operations timetable. The rule includes a requirement for AEMO to publish any amendments to the Spot market operations timetable. This requirement means that participants will be updated on changes to the Spot market operations timetable.<sup>71</sup>

<sup>69</sup> AGL, submission on consultation paper, p.4.

<sup>70</sup> Red and Lumo Energy, submission on consultation paper, p.3.

<sup>71</sup> AEMO informed the Commission that if it amends a procedure under the 'minor or administrative' provisions in the Rules, its usual practice is to inform stakeholders that the procedure has been amended. AEMO noted that this includes publishing the amended procedure on its website, including document version history, setting out the commencement date of the amended procedure and notifying stakeholders that the amended procedure has been published through an AEMO communications emails (to all registered participants).



## 5.2 Timing for AEMO to publish UFE data

### BOX 9: SUMMARY

This rule change request sought to clarify when metering data providers (MDPs) are to send AEMO data to calculate UFE for the soft start period of global settlements (between 1 July 2021 and 6 February 2022). It proposed changing the requirement to provide this data from "by 1 July 2021" to "for each trading interval in the period commencing on 1 July 2021 and ending immediately prior to commencement on 6 February 2022".

The Commission's final rule supports the policy intent of the global settlement rule, that AEMO calculate and publish aggregate UFE quantities during the soft start period so market customer can calculate the UFE allocation they would have received.

### 5.2.1

#### Background

##### Current arrangements

The global settlement rule introduces a requirement for AEMO to provide UFE information to each market customer so they can verify the UFE being apportioned to them at each of their market connection points. The UFE reporting requirements on AEMO include:

- **Soft start begins 1 July 2021** – the transitional provision require AEMO to publish the information necessary to verify UFE allocations by 1 July 2021, which is the date of the 'soft start' of global settlements.
- **Full commencement of global settlement rule** - 6 February 2022.
- **Annual reporting** – AEMO to publish the first annual UFE report on 1 March 2022 and finalise the UFE reporting guidelines by 1 December 2022.

##### Change made in global settlement rule change

The global settlement rule introduced a requirement for AEMO to provide UFE information to each market customer so that they could verify the UFE apportioned to them at each of their market connection points.<sup>72</sup> One policy outcome sought from the 'soft start' period for global settlement was for retailers to get an indication of their UFE financial liability by AEMO calculating and reporting UFE quantities before the full commencement of the rule. Under the global settlement rule, MDPs are expected to start sending AEMO the required data inputs for UFE calculation and publication *from* 1 July 2021 (under AEMO's amended metering procedures).<sup>73</sup> No actual allocations of UFE to retailers would be made until the full commencement of global settlement on 6 February 2022.<sup>74</sup>

<sup>72</sup> AEMO, *Five minute settlement and global settlement implementation amendment rule change request*, 15 March 2019, p.9

<sup>73</sup> AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.9.

<sup>74</sup> The soft start period was also adopted to avoid the full commencement of global settlement on 1 July 2021, the same day as the commencement of five minute settlement, to reduce financial risk associated with the relevant system changes. AEMC, *Global settlement and market reconciliation*, Rule determination, 6 December 2018, p.v.

### 5.2.2 AEMO's proposal in the rule change request

AEMO considered the transitional provision would not deliver the intended outcome during the soft start period regarding AEMO publication of UFE data.<sup>75</sup>NER clause 11.112.5 requires AEMO to publish the information necessary to verify UFE allocations *by* 1 July 2021. However, AEMO notes that MDPs are only expected to start sending AEMO the data needed for the UFE calculation *from* 1 July 2021 (under AEMO's amended metering procedures). Therefore, AEMO suggested changing the transitional provision -- from "by 1 July 2021"-- to "for each trading interval in the period commencing on 1 July 2021 and ending immediately before the commencement date".<sup>76</sup>

### 5.2.3 Stakeholder views

Stakeholders had mixed views on the proposed rule amendment and raised some concerns:

- AGL supported the proposal. AGL note that AEMO has already proposed changes to metrology procedures to enable UFE data to be available from 1 July 2021 and participants are being consulted on this.<sup>77</sup>
- EnergyAustralia supported the proposal. EnergyAustralia understood that the amendment sought to ensure that AEMO would have the information it requires to produce indicative UFE data from 1 July 2021. EnergyAustralia sought guidance from the AEMC as to the completeness of the data that retailers can expect from 1 July 2021. For instance, would AEMO make UFE data available progressively from July 2021 or would complete data be available from 1 July 2021? EnergyAustralia's preference is for complete data to be available from 1 July 2021, rather than being made progressively available, so that retailers can assess their financial liability over time before the full commencement of global settlement in February 2022.<sup>78</sup>
- Red and Lumo Energy did not support the proposal. It was concerned that the market does not have a reasonable understanding of UFE and that AEMO must undertake further consultation with affected parties on this matter before it introduces UFE. Red and Lumo Energy suggested that AEMO should address a number of matters in their consultation to educate retailers regarding the manner in which UFE is to be calculated and published, the financial impact on non-local retailers and the interaction with other regulatory obligations (e.g. Victorian Default Offer).<sup>79</sup>

### 5.2.4 Commission's final position

The Commission's final rule:

- Supports the policy intent of the global settlement rule. It will provide for the availability of early information to market customers on their potential UFE financial liability before the global settlement rule comes into effect. The rule clarifies that AEMO must calculate

<sup>75</sup> Ibid, p9.

<sup>76</sup> Ibid, p9.

<sup>77</sup> AGL, submission on consultation paper, p.4.

<sup>78</sup> EnergyAustralia, submission on consultation paper, p.2.

<sup>79</sup> Red and Lumo Energy, submission on consultation paper, pp.1-2.

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and publish aggregate UFE quantities that market customers would have received during the soft start period, from 1 July 2021 to 6 February 2022.

- Will help market customers estimate the potential financial impact of UFE under global settlement.
- Is not expected to incur any incremental costs as it only clarifies the timing of information publication.<sup>80</sup>

In response to comments from stakeholders, the Commission notes:

- Red and Lumo Energy's views that retailers need more information about UFE before global settlements commences. The Commission notes that AEMO has been consulting with industry on the implementation of the global settlement rule and is in the process of updating their procedures.<sup>81</sup> AEMO informed the Commission that UFE will be calculated in accordance with the NER and published to retailers on a weekly basis, in line with the settlement week.<sup>82</sup> AEMO also informed the Commission that it will need to develop a new procedure/guideline for UFE reconciliation prior to 1 July 2021 and would likely engage with industry in the development of this guideline.<sup>83</sup> The Commission expects that AEMO procedures and/or guidelines, once finalised, will outline how UFE will be calculated (including the impact of loss factors), published and recovered through settlements.
- EnergyAustralia's request for guidance on the completeness of data that is to be available from 1 July 2021. AEMO has informed the Commission that, for each week of the soft start period from 1 July 2021 to 6 February 2022, AEMO intends to publish in weekly settlements the UFE allocation that would apply to each retailer, as if the global settlements rule were in effect.
- The concern raised by Red and Lumo Energy in relation to whether other regulatory obligations, such as the Victorian Default Offer, have been factored into the calculation of UFE. The Commission notes that in relation to other regulatory obligations which could impact on UFE, it would be a matter for the relevant regulatory or government organisation to consider the potential impact of each specific obligation on UFE.

80 AEMO, *Five minute settlement and global settlement implementation amendments rule change request*, 15 March 2019, p.16.

81 See AEMO, *5MS Settlement Focus Group #2 presentation slides*, 20 March 2019.

82 AEMO informed the Commission that each week it would publish the UFE allocation to retailers for that week. AEMO also informed that it would consider providing additional UFE information if industry could demonstrate the benefits of additional data being provided.

83 AEMO note that although there isn't a rules requirement for formal industry consultation of this guideline, AEMO would likely engage with industry on its development.

## 6 OPERATION OF THE RULE

This chapter outlines other minor changes made in this final rule and timing for commencement of the rule.

### 6.1 Other minor changes to reflect more recent changes to the NER

In addition to the nine amendments outlined in Chapters 1 to 5 of this final determination, the final rule includes several other minor amendments. These relate to clauses of the NER that were introduced, through other rule change processes, after the five minute settlement rule was made in November 2017. These changes are:

- in NER clause 3.9.7(c), "dispatch price" has been omitted and replaced with "spot price"
- in NER clause 3.9.7(c), "dispatch interval" has been omitted wherever occurring and replaced with "trading interval".
- in NER clause 3.9.7(d), "dispatch price" has been omitted and replaced with "trading interval".

### 6.2 Timing for commencement of the rule

The timing for commencement of the rule is as follows:

- the amendments relating to the Five minute settlement rule are to commence on 1 July 2021<sup>84</sup>
- the amendments relating to the Global settlement rule are to commence on 6 February 2022<sup>85</sup>
- amendments to the Spot market operations timetable and amendments to transitional arrangements for Five minute settlement and Global settlement are to commence on 12 August 2019.<sup>86</sup>

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84 Schedule 2 of the *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019*.

85 Schedule 3 and 5 of the *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019*.

86 Schedule 1 and 6 of the *National Electricity Amendment (Five minute settlement and global settlement implementation amendments) Rule 2019*.

## ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Commission	See AEMC
IRLF	Intra-regional loss factors
LSNP	Local network service provider
LR	Local retailer
MLF	Marginal loss factor
MDP	Metering data provider
MSATS	Market settlement and transfer solutions
NEL	National Electricity Law
NEM	National electricity market
NEO	National electricity objective
NMI	National Metering Identifier
RRN	Regional reference node
RSIG	Reliability Standard Implementation Guidelines
RSSR	Reliability Standard and Settings Review
RSSR guidelines	Reliability Standard and Settings Review guidelines
TNI	Transmission Node Identifier
UFE	Unaccounted for energy
VCR	Value of customer reliability
VTN	Virtual Transmission Node

## A SUMMARY OF OTHER ISSUES RAISED IN SUBMISSIONS

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

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

STAKEHOLDER	ISSUE	AEMC RESPONSE
AusNet Services, p1	<p>The need for further Rule amendments and the inconsistencies addressed by the amendments has reduced the timeframe for organisations to complete the work programs required to implement necessary IT system changes in support of five minute settlement and global settlement. On this basis, AusNet recommend the consideration of a delay to the rule effective start date by six months.</p> <p>AusNet note that, in the context of this very significant, once in a decade, change to NEM retail market and wholesale market operating arrangements, the six month delay would not be a major disruption. Other market reforms, such as the DER Register, AEMO and BSB procedure changes, changes to reduce switching times and ACCC energy data access arrangements, are being conducted in parallel over the same timeframe. The significant risks of organisations not being ready have also been discussed at the 5MS Program Consultative Forum hosted by AEMO.</p>	<p>The effect of other market reforms (e.g. DER register) are out of scope to be considered as part of for this rule change request.</p> <p>Some of the amendments made in this final rule will reduce implementation requirements on AEMO, making implementation easier. AEMO <u>has advised the Commission that it is</u> on track to meet the December 2019 deadline for updating required procedures. This is the timing set out in the transitional arrangements for the five minute settlement and global settlement rules.</p> <p>Discussions with AusNet Services indicated that AusNet's key concern was around the uncertainty relating to the timing of the transition of the responsibility for the metering coordinator (from the local retailer to DNSPs) at transmission and distribution boundary points. The Commission supports clear accountability between transmission and distribution networks at boundary points when these rules commence. However, the Commission considers that changing the date when responsibility for transmission and distribution boundary points changes from</p>

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STAKEHOLDER	ISSUE	AEMC RESPONSE
		local retailers to DNSPs was not part of the original rule change request. Therefore, it is outside the scope of this expedited rule change process.
Red and Lumo Energy, p4.	Request that the Commission ensure that the rules are clear that local retailers will no longer have access to NMI standing data under global settlements. Red and Lumo Energy understand that clause 7.15.5(c)(1) of the NER was drafted to allow local retailers to be able to access NMI standing data and specifically the energy consumed, as it was necessary for settlement purposes. However, the move to global settlement removes this requirement.	A local retailer that no longer has a financial interest in a particular metering installation or energy measured by that metering installation will not have access to NMI standing data in relation to that metering installation after the full commencement of global settlement on 6 February 2022.

## B 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.

### B.1 Final rule determination

In accordance with ss. 102 and 103 of the NEL the Commission has made this final rule determination and associated final rule in relation to the rule proposed by AEMO.

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

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 2.4, and Chapters 3, 4 and 5 of this final rule determination.

### B.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.
- The activities of persons (including Registered participants) participating in the national electricity market or involved in the operation of the national electricity system.

Further, the more preferable final rule falls within the matters set out in Schedule 1 to the NEL.

### B.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
- 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>87</sup>

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

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<sup>87</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 is now called the COAG Energy Council.



Energy Market Operator (AEMO)'s declared network functions.<sup>88</sup> The more preferable final rule is compatible with AEMO's declared network functions because it leaves those functions unchanged.

## B.4 Civil penalties

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

The Commission's final rule amends clause 3.9.7(c) of the NER. This rule is currently classified as a civil penalty provision under Schedule 1 of the National Electricity (South Australia) Regulations (Regulations). The Commission is proposing to recommend, subject to consultation with the AER, to the COAG Energy Council that the above clause should continue to be classified as a civil penalty provision. This is because a breach of this rule could have a material impact on NEM settlement and operation, and classifying the provision as a civil penalty provision will encourage compliance by the relevant parties.

The Commission's final rule omits clause 2.3.4(h) of the NER. This rule is currently classified as a civil penalty provision under Schedule 1 of the National Electricity (South Australia) Regulations (Regulations). The Global settlement rule removed the requirement for there to be retailer financial responsibility at the boundary between transmission and distribution networks. Therefore this clause 2.3.4(h) is no longer required. The Commission is proposing to recommend, subject to consultation with the AER, to the COAG Energy Council that clause 2.3.4(h) should no longer be classified as a civil penalty provision.

## B.5 Conduct provisions

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

The final 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 final rule be classified as conduct provisions.

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<sup>88</sup> Section [91(8) of the NEL.

## C BACKGROUND ON FIVE MINUTE SETTLEMENT RULE AND GLOBAL SETTLEMENT AND MARKET RECONCILIATION RULE

This appendix provides a summary of the Five minute settlement rule and the Global settlement rules that were previously made by the Commission.

### C.1 Five minute settlement rule change

On 28 November 2017, the Commission made a rule to align operational dispatch and financial settlement at five minutes. The five minute settlement rule would reduce the time interval for financial settlement in the NEM from 30 minutes to five minutes. The rule was made in respect of a rule change request received from Sun Metals Corporation Pty Ltd (Sun Metals) in December 2015.<sup>89</sup>

#### **Benefits of five minute settlement rule change**

The Commission considered that aligning dispatch and settlement at five minutes would have the following significant enduring benefits, relative to the current arrangements, including:<sup>90</sup>

- improved price signals for more efficient generation and use of electricity
- improved price signals for more efficient investment in capacity and demand response technologies to balance supply and demand
- improved bidding incentives.

#### **Implementation of five minute settlement rule change**

The five minute settlement rule allowed for an implementation period of 3 years and 7 months, such that the rule would commence on 1 July 2021. Implementation of five minute settlement requires AEMO and NEM participants to make changes prior to the commencement date. These changes include:

- upgrading metering to provide five minute granularity data (where required)
- updating IT systems to store and process five-minute granularity data
- reviewing and where necessary updating existing contract terms and conditions.

For more information on the five minute settlement rule change, refer to the AEMC project page.<sup>91</sup>

### C.2 Global settlement and market reconciliation rule change

On 6 December 2018, the Commission made a rule to introduce a 'global settlement' framework for settlement of the demand side of the wholesale electricity market. The global

<sup>89</sup> The final rule is a more preferable rule.

<sup>90</sup> AEMC, *Five minute settlement*, Final determination, 28 November 2017, p.ii.

<sup>91</sup> See AEMC, *Five minute settlement*, at: <https://www.aemc.gov.au/rule-changes/five-minute-settlement>

settlement rule moves away from the current 'settlement by difference' approach. The rule was made in respect of a rule change request received from AEMO on 16 March 2018.<sup>92</sup>

### **Background on settlements, 'settlements by difference' and 'global settlements'**

The NEM is a gross electricity pool market operated by AEMO. All electricity supplied to the market and consumed by end users is transacted at the spot price for each trading interval in each region. The market settlement process requires that generators are paid for the energy they provide to the NEM and market customers pay for the energy they use. Market customers are primarily electricity retailers who purchase wholesale electricity to on-sell to their retail customers, but also include some large industrial customers.<sup>93</sup>

Under the current market settlement framework, known as 'settlement by difference', electricity supplied to a distribution area is billed to the incumbent retailer known as the local retailer, except for the loss-adjusted metered electricity that is consumed by the customers of independent retailers within the area. This means that the local retailer for an area bears the risk of all residual electricity losses in that area - known as unaccounted for energy (UFE). UFE includes unaccounted for technical losses, commercial losses and errors in estimating the half-hourly - soon to be five minute - consumption of basic metering installations that do not keep track of how electricity usage varies throughout the day.<sup>94</sup>

Under a global settlement framework, every retailer is billed for the loss-adjusted metered electricity that is consumed by their customers within the area. UFE is allocated to market customers in a local area, pro-rated based on their 'accounted-for' energy.<sup>95</sup>

### **Benefits of global settlement rule change**

The global settlement rule, which will commence on 6 February 2022, moves away from the 'settlement by difference' approach which has been in place since the start of the NEM. When the NEM started in 1998, the local retailer in each local area supplied the vast majority of all customers in the area. It was therefore appropriate for the local retailers to bear the risk of UFE within the local area. With the introduction of retail competition this is no longer the case - the local retailer, a notionally anachronistic role, is just one of a number of competitive retailers servicing an area. Therefore, the Commission agreed with AEMO that settlements by difference is no longer a fit for purpose approach to settlements.<sup>96</sup>

The key benefits of moving to a global settlements framework include:<sup>97</sup>

- improved transparency, leading to fewer settlement disputes between retailers and lower levels of UFE over time
- competition on equal terms between the local retailer and other retailers

92 The final rule was a more preferable rule. It is generally consistent with AEMO's rule change request but varies in some specific design elements of global settlements. AEMC, *Global Settlement and Market Reconciliation*, Rule determination, 6 December 2018, p.i.

93 AEMC, *Global Settlement and Market Reconciliation*, Rule determination, 6 December 2018, p.i.

94 Ibid.

95 Ibid.

96 Ibid.

97 Ibid, p.ii.

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- improved risk allocation, so that risks are allocated to those parties that are best placed to manage them.

**Implementation of global settlement rule change**

In addition to the benefits outlined above, the Commission noted in its final determination published in December 2018, that it was the appropriate time to move to a global settlements approach because its implementation could be synchronised with implementation of the five minute settlement rule, which would reduce implementation costs.<sup>98</sup>

For more information on the global settlement rule change, refer to the AEMC project page.<sup>99</sup>

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98 AEMC, *Global settlement and market reconciliation*, Rule determination, 6 December 2018, p.i.

99 See AEMC, *Global settlement and market reconciliation*, at: <https://www.aemc.gov.au/rule-changes/global-settlement-and-market-reconciliation>