

FIVE MINUTE SETTLEMENT – NEM SETTLEMENT ESTIMATES POLICY CHANGES

DRAFT REPORT AND DETERMINATION

Published: **February 2019**





NOTICE OF SECOND STAGE CONSULTATION – NEM SETTLEMENT ESTIMATES POLICY

National Electricity Rules – Rule 8.9

Date of Notice: 19 February 2019

This notice informs all Registered Participants and interested parties (Consulted Persons) that AEMO is commencing the second stage of its consultation on the NEM Settlement Estimates Policy as a result of the Five-Minute Settlement (5MS) rule change.

This consultation is being conducted in accordance with the Rules consultation requirements detailed in rule 8.9 of the NER.

Invitation to make Submissions

AEMO invites written submissions on this Draft Report and Determination (Draft Report).

Please identify any parts of your submission that you wish to remain confidential, and explain why. AEMO may still publish that information if it does not consider it to be confidential, but will consult with you before doing so.

Consulted Persons should note that material identified as confidential may be given less weight in the decision-making process than material that is published.

Closing Date and Time

Submissions in response to this Notice of Second Stage of Rules Consultation should be sent by email to 5MS@aemo.com.au, to reach AEMO by 5.00pm (Melbourne time) on 6 March 2019.

All submissions must be forwarded in electronic format (both pdf and Word). Please send any queries about this consultation to the same email address.

Submissions received after the closing date and time will not be valid, and AEMO is not obliged to consider them. Any late submissions should explain the reason for lateness and the detriment to you if AEMO does not consider your submission.

Publication

All submissions will be published on AEMO's website, other than confidential content.

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EXECUTIVE SUMMARY

The publication of this Draft Report and Determination (Draft Report) commences the second stage of the Rules consultation process conducted by AEMO to consider amendments to the NEM Settlement Estimates Policy (Policy) under the National Electricity Rules (NER) for the implementation of Five-Minute Settlement (5MS) and Global Settlement (GS).

On 26 November 2018, AEMO published the Notice of First Stage Consultation and the Issues Paper for the Policy.

The Issues Paper detailed key proposals involving:

- Updates to estimates for settlement amounts (estimation now only required in case of the sustained failure of AEMO systems).
- Updates to estimates for prudential purposes (part of daily prudential calculation process), including replacement of references to 30-minute intervals with 5 minutes, and provision to incorporate UFE estimates.

AEMO received two submissions from Ergon Energy Queensland (EEQ) and Origin Energy. From these submissions and AEMO's analysis, AEMO considers that no changes are required to the amendments to the Policy as proposed in the Issues Paper.

Considering the submissions and evaluating comments against the requirements of the NER and the amending rules for 5MS and GS, AEMO's draft determination is to amend the NEM Settlement Estimates Policy in the form published with this Draft Report, reflecting the following outcomes:

- Update section 2 of the Policy to reference other defined procedures that document the protocol in the event of systems or communications failure.
- Update the settlement estimation calculations to five-minute resolution while maintaining the underlying methodology.
- Include UFE in settlement estimation, and estimate UFE as zero when meter data is not available.

AEMO invites stakeholders to suggest alternative options where they do not agree that AEMO's proposals would achieve the relevant objectives.



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1. STAKEHOLDER CONSULTATION PROCESS

As required by clause 3.15.12 of the NER, AEMO is consulting on the NEM Settlement Estimates Policy (Policy) in accordance with the Rules consultation process in rule 8.9.

AEMO's indicative timeline for this consultation is outlined below. Future dates may be adjusted depending on the number and complexity of issues raised in submissions.

Deliverable	Indicative date
Notice of first stage consultation and Issues Paper published	26 November 2018
First stage submissions closed	21 January 2019
Draft Report & Notice of second stage consultation published	19 February 2019
Submissions due on Draft Report	6 March 2019
Final Report published	4 April 2019

The publication of this Draft Report marks the commencement of the second stage of consultation. Note that there is a glossary of terms used in this Draft Report at Appendix A.

2. BACKGROUND

2.1. NER requirements

There are two distinct applications for estimated settlement amounts outlined in the NER, and covered under the Policy:

- i. Clause 3.15.12(c) of the NER requires AEMO to develop the principles and the process to be applied in calculating the estimated settlement amount when normal processing is not available under clause 3.15.12(b). As AEMO maintains back-up capability for settlement data, this type of settlement estimation is only necessary under the sustained failure of AEMO systems that are required for settlements. It has never been invoked to date.
- ii. Clause 3.3.9 of the NER requires AEMO to calculate settlement amounts for inclusion in a Market Participant's 'outstandings' to determine its prudential settings. The outstandings of a Market Participant is a net dollar amount payable by or to AEMO based on settlement amounts, including estimated settlement amounts for billing periods pending final statements. Market Participants are obliged under clause 3.3.11 of the Rules to maintain their outstandings below their trading limit. Failure to do so can result in AEMO issuing a call notice. This estimation is undertaken daily for each Market Participant.

2.2. Context for this consultation

2.2.1. Five-Minute Settlement and Global Settlement

In November 2017, the AEMC made the Five-Minute Settlement (5MS) rule. The rule reduces the trading interval for financial settlement in the National Electricity Market (NEM) from 30 minutes to five minutes, aligning with NEM dispatch.

The AEMC made the Global Settlement (GS) rule in December 2018 to introduce a 'global settlement' framework for settlement of the demand side of the wholesale electricity market.

The final 5MS and GS rules require AEMO to update and publish a number of specified relevant procedures by 1 December 2019. While the Policy is not one of the specified procedures, AEMO has identified it as one of the publicly consulted documents that require amendment for 5MS and GS implementation.



2.2.2. Implementing Five-Minute Settlement

Five-minute settlement will commence in the NEM on 1 July 2021. Settlement across the NEM will then be based on five-minute trading interval prices.

5MS will change many NEM processes, including energy and ancillary service bidding, online dispatch, intervention pricing, the calculation of trading amounts, the calculation of the cumulative price threshold, and periodic energy metering. Given that settlement will now be based on the five-minute trading price, this will also impact how settlement estimates are calculated.

2.2.3. Global Settlement

Implementing global settlement will remove the current 'settlement by differencing' framework that has been in place since the start of NEM. Under 'settlement by differencing' the local retailer is responsible for settling the value of any residual electricity supplied to a distribution area after deducting the loss-adjusted metered electricity consumed by market loads within that area. This means that the local retailer bears the cost and risk of all residual electricity losses in that area, known as unaccounted for energy (UFE).

Under the GS framework, every retailer is billed for the loss-adjusted and UFE-adjusted metered electricity consumed by their customers within that area. This will come into effect on 6 February 2022. The final rule required AEMO to commence publication of UFE on 1 July 2021, coinciding with the start of 5MS.

As settlement estimates for prudential purposes will need to take UFE amounts into account, this consultation includes a proposed change to the Policy reflecting the final GS rule.

2.3. First stage consultation

On 26 November 2018, AEMO issued a Notice of First Stage Consultation, and published an Issues Paper and draft procedures for the NEM Settlement Estimates Policy. This information is available on AEMO's website and can be accessed through the link below.

The Issues Paper included details on AEMO's stakeholder engagement in developing the initial draft procedures and a summary of the specific amendments proposed in the initial consultation pack.

AEMO received two submissions in response to the first stage consultation, including one late submission. Copies of all written submissions, minutes of meetings and issues raised in forums (excluding any confidential information) have been published on AEMO's website.

<http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Five-Minute-Settlement---NEM-Settlement-Estimates-Policy>

3. SUMMARY OF MATERIAL ISSUES

This section details the material issues AEMO identified during the review process. It also provides AEMO's assessment of the issues and how AEMO proposes to address them.

The key material issues arising from the proposal and raised by Consulted Persons are summarised in the following table:



No.	Issue	Raised by
1.	Estimates to calculate net settlement amount	AEMO
2.	Estimates for prudential purposes	AEMO
3.	Potential effect of Global Settlement	AEMO

A detailed summary of issues raised by Consulted Persons in submissions together with AEMO's responses, is contained in Appendix B.

4. DISCUSSION OF MATERIAL ISSUES

4.1. Estimates to calculate net settlement amount

4.1.1. Issue summary and submissions

Section 2 of the current Policy sets out the estimation approach when AEMO cannot produce settlement statements due to systems or communications failure. This process has never been used in NEM settlement history and is no longer consistent with AEMO's IT capability and market processes to manage system and communication outages.

AEMO proposed to update this section of the Policy to reference other defined procedures that document the protocol in the event of systems or communications failure.

EEQ agreed with the proposed changes and acknowledges that the existing processes have never been used and are no longer an accurate reflection of AEMO's IT capability and market processes.¹ Origin also agreed with AEMO's proposed changes.²

4.1.2. AEMO's assessment

The proposed amendments will provide participants a better understanding of how AEMO currently operates, and will facilitate better interactions between AEMO and Market Participants. All submissions supported this position and did not proposed any alternative approaches.

4.1.3. AEMO's conclusion

AEMO will maintain its proposed approach to reference other relevant defined procedures. This is reflected in the draft Policy published with this Draft Report.

4.2. Estimates for prudential purposes

4.2.1. Issue summary and submissions

The Policy sets out the hierarchy of data and estimation methodology used for calculating settlement estimates for monitoring Market Participants' outstandings when actual metering data is not available.

The current methodology behind the Policy performs the settlement estimation calculation at a 30-minute resolution. The 5MS rule updates the definition of a trading interval to five minutes, resulting in misalignment with the current methodology.

AEMO proposes to update this calculation to five-minute resolution in line with 5MS, however the underlying methodology will be retained.

EEQ supported the proposal to retain the existing methodology with calculations at a five-minute level. On the current scaled 'like day' estimation methodology, EEQ noted that consideration should be given to the

¹ Ergon Energy Queensland, Submission to first stage consultation, p.2

² Origin Energy, Submission to first stage consultation, p. 2



potential for new renewable energy projects to influence the likelihood of there being a sufficient number of 'like days' to support energy estimates. EEQ welcomed AEMO's proposal to continue monitoring the accuracy of the estimation through an internal review process, and consider a thorough review process after 5MS is implemented in July 2021.³

Origin supported AEMO's proposed approach and did not propose any alternatives.⁴

4.2.2. AEMO's assessment

The proposed amendments will ensure that the settlement estimates procedure is in line with 5MS, with low implementation risks and costs.

AEMO agrees with EEQ's comment regarding the potential for changing generation profiles to influence the accuracy of settlement estimation. AEMO's current assessment is that the estimation methodology is valid in the current market environment. AEMO will continue to monitor the accuracy of the estimation methodology and will consult stakeholders if it believes any changes to the methodology are required.

4.2.3. AEMO's conclusion

AEMO will maintain its proposal to update the settlement estimation calculations to five-minute resolution while maintaining the underlying methodology. This is reflected in the draft Policy published with this Draft Report.

4.3. Potential effect of Global Settlement

4.3.1. Issue summary and submissions

Under the final GS rule, all retailers will be billed for a proportion of the UFE in a local area, based on the electricity consumed by their customers within that area. This means that there will now be a UFE component included in settlement estimations for prudential purposes.

Where initial metering data and/or preliminary and final settlement data is available, AEMO proposed that the UFE component to be included in the settlement estimation for prudential purposes.

Where there is no meter data available, currently a scaled like-day estimate is used for settlement estimation for prudential purposes. AEMO proposed that the UFE component on these days will be assumed to be zero.

EEQ supported AEMO's proposed approach to estimate UFE and changes, agreeing that it would have a minimal effect on prudential estimates given the immateriality of the value to the total credit limit and that the estimation process only applies to a small part of prudential estimates.⁵ Origin also noted that the proposed approach was logical.⁶

4.3.2. AEMO's assessment

As highlighted in the Issues Paper, AEMO expects UFE estimation to have minimal effect on prudential estimates. This is because UFE volumes are typically not significant, and the estimation process only comprises a small part of the total prudential estimate. Both submissions supported AEMO's proposal to estimate UFE as zero. Hence, AEMO's proposal of estimating UFE as zero proposal will carry minimal implementation risk, and is also a low-cost approach.

³ Ergon Energy Queensland, Submission to first stage consultation, p.3

⁴ Origin Energy, Submission to first stage consultation, p.3

⁵ Ergon Energy Queensland, Submission to first stage consultation, p.4

⁶ Origin Energy, Submission to first stage consultation, p.4



4.3.3. AEMO's conclusion

AEMO will maintain its proposed approach to include UFE in settlement estimation and estimate UFE as zero when meter or settlements data is not available. This is reflected in the draft Policy published with this Draft Report.

5. OTHER MATTERS

In their submission, EEQ raised some queries that AEMO does not consider directly relevant to the NEM Settlement Estimates Policy but could be relevant to other AEMO procedures under consultation. These are summarised in Appendix B.

AEMO does not consider amendments to the NEM Settlement Estimates Policy will be required for transitional arrangements. This is because the transition for settlement estimates will only apply at a system level, and is not expected to have an impact on market participants. AEMO will engage with interested stakeholders through the SMS forums and working groups (PCF, PWG, SWG, etc.) as relevant.

6. DRAFT DETERMINATION

Having considered the matters raised in the submissions, AEMO's draft determination is to amend the NEM Settlement Estimates Policy in the form of the uploaded Policy document published with this Draft Report.

**APPENDIX A. GLOSSARY**

Term or acronym	Meaning
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
EEQ	Ergon Energy Queensland
IT	Information Technology
NEM	National Electricity Market
NER	National Electricity Rules
MDP	Metering Data Provider
PCF	Program Consultative Forum
PWG	Procedures Working Group
SWG	Systems Working Group
UFE	Unaccounted for Energy



APPENDIX B. SUMMARY OF SUBMISSIONS AND AEMO RESPONSES

No.	Issue		Participant Comment	AEMO response
1.	Do participants agree with the proposed changes to estimates of net settlement amounts for settlement statement purposes? If not, why?	Ergon Energy Queensland	Ergon Energy Queensland (EEQ) agrees with the proposed changes to estimates of net settlement amounts for settlement statement purposes. EEQ acknowledges that the existing processes have never been used and are no longer an accurate reflection of AEMO’s IT capability and market processes that relate to the management of system and communication outages.	Noted
2.		Origin	Yes, Origin agrees with the proposed changes.	Noted
3.	Are there other relevant issues that have not been considered?	Ergon Energy Queensland	EEQ has noted a number of issues we believe relevant in section 4.	Noted
4.		Origin	No	Noted
5.	What is an alternative approach to estimating settlement amounts in any relevant scenario? How would it be implemented?	Ergon Energy Queensland	EEQ has not identified an alternative approach to estimating settlement amounts.	Noted
6.		Origin	Origin does not have any alternative approaches to put forward.	Noted
7.	Do participants agree with the proposed changes to estimates for prudential purposes, why?	Ergon Energy Queensland	EEQ supports the proposal to retain the existing methodology with calculations at a five-minute level as it strikes an appropriate balance between implementation risks and costs.	Noted
8.		Origin	Yes, Origin agrees as the proposed changes are logical.	Noted
9.	Are there other relevant issues that have not been considered?	Ergon Energy Queensland	<p>EEQ notes that a number of significant renewable energy projects are due to come on line in the lead up to the move to the 5-minute settlements framework. Consideration should be given to the potential for these projects to influence the likelihood of there being a sufficient number of ‘like days’ to support energy estimates.</p> <p>EEQ welcomes the proposal that the accuracy of the estimation be monitored through an internal review process and reassessed again after 5MS is implemented in July 2021.</p>	AEMO believes the estimation methodology is still valid in the current market environment. AEMO will continue to monitor the accuracy of the estimation methodology and will consult with stakeholders if it believes any changes are necessary in the future.



10		Origin	No	Noted
11	What is an alternative approach to perform settlement estimates for prudential purposes? How would it be implemented?	Ergon Energy Queensland	EEQ has not identified an alternative approach.	Noted
12		Origin	Origin does not have any alternative approaches to put forward.	Noted
13	Do participants agree with the proposed approach to estimate UFE, why?	Ergon Energy Queensland	EEQ agrees with the proposed approach to estimate UFE. That is, where no meter data is available a scaled like-day estimate be used for settlement estimation for prudential purposes and that on these days the UFE component will be assumed to be zero. EEQ agrees with AEMO that this approach would have a minimal effect on prudential estimates given the immateriality of the value to the total credit limit and that the estimation process only applies to a small part of prudential estimates	Noted
14		Origin	Yes, Origin agrees as the proposed approach is logical.	Noted
15	Are there other relevant issues that have not been considered?	Ergon Energy Queensland	EEQ notes that the NER appears to be silent on the methodology for settlement calculations for type 6 metering with regards to forward estimates. Metrology outlines the MDPs estimation methods but its application to settlements, namely settlement estimates is missing. To ensure alignment in methodology EEQ seeks further guidance from AEMO on the methodology they intend to use for the purposes of applying NSLP for forward estimates. Further, given the significant volumes of type 6 metering for ERGON1 profile requiring an estimated settlement amount under the global settlements methodology for Preliminary and Final Statement Preparation EEQ is concerned that the calculation and assignment of UFE where actual consumption data is not available and may not occur until the 20 week revision statement.	AEMO does not consider this is a material issue associated with the NEM Settlement Estimates Policy. If EEQ believes forward estimates creates a material exposure regarding settlement estimations, AEMO encourages submissions to the Metrology Part B procedure consultation. Consultation is expected to commence in April 2019.
16		Origin	No	Noted



17	What is an alternative approach to estimate UFE? How would it be implemented?	Ergon Energy Queensland	EEQ has not identified an alternative approach however note that should an estimation method be ratified AEMO should ensure that participants have access (via published material) to both the value and calculation method for each profile area.	Noted
18		Origin	Origin does not have any alternative approaches to put forward.	Noted
19	Are there any transitional issues that need to be reflected in the Policy?	Ergon Energy Queensland	EEQ supports the use of both 5M and 30M settlements over a transitional period. In the interests of avoiding duplication EEQ seeks further guidance from AEMO on downstream impacts of the use of two statements. ised. [sic]	AEMO is currently considering transitional arrangements for 5MS and will consult with the industry through the 5MS forums (PCF, PWG, SWG, etc.) as relevant. AEMO does not expect transitional arrangements to impact the NEM Settlement Estimates Policy.
20		Origin	No	Noted
21	Do you have any additional feedback or suggestions on amendments to the Policy not covered in the previous sections, in connection with the 5MS or Global Settlement rules?	Ergon Energy Queensland	EEQ advise that there would be value in providing a Calculation Method into the Level 2 Settlement Reconciliations to identify AEMO methods. Replace 'N' values with <ul style="list-style-type: none"> • 'A'ctual (as provided by the MDP) • 'E'stimate (as provided by the MDP) • 'C'alculated (AEMO estimation) Reference is made to the NER acknowledging AEMO estimation which would assist with potentially lessening disputes where amount differ to retailer internal calculations. 3.15.15A Use of estimated settlement amounts by AEMO (a) Subject to clause 3.15.15A(b), if AEMO calculates an estimated settlement amount in accordance with clause 3.15.12(b), then clauses 3.15.13, 3.15.14 and 3.15.15 will have effect mutatis mutandis by applying the estimated settlement amount in place of a settlement amount for a Market Participant for the purposes of those clauses.	AEMO does not consider this matter to be directly relevant to the NEM Settlement Estimates Policy. Submissions to the MSATS Procedures-MDM procedures consultation on this matter is encouraged. Consultation is expected to commence in April 2019.
22		Origin	No	Noted