

FIVE MINUTE SETTLEMENT – NEM SETTLEMENT REVISIONS POLICY CHANGES

DRAFT REPORT AND DETERMINATION

Published: **March 2019**





NOTICE OF SECOND STAGE CONSULTATION – NEM SETTLEMENT REVISIONS POLICY

National Electricity Rules – Rule 8.9

Date of Notice: 22 March 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 Revisions Policy as a result of the Five-Minute Settlement (5MS) rule.

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 8 April 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 Revisions Policy (Policy) under the National Electricity Rules (NER) for the implementation of Five Minute Settlement (5MS) and Global Settlement (GS).

On 14 December 2018, AEMO published the Notice of First Stage Consultation and the Issues Paper for the Policy. The Issues Paper detailed key proposals involving:

- The potential effect of 5MS
- The potential effect of GS

AEMO received three submissions from Ergon Energy Queensland (EEQ), Origin Energy and Alinta Energy. Submissions were generally supportive of AEMO's proposed changes, but highlighted some issues for AEMO's consideration. Having considered the submissions, AEMO's draft determination is to retain the amendments as proposed in the Issues Paper, and also introduce a new clause in the Policy to clarify the implementation of GS in relation to settlement revisions.

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 the National Electricity Rules (NER), AEMO is consulting on the NEM Settlement Revisions 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	14 December 2018
First stage submissions closed	22 February 2019
Draft Report & Notice of second stage consultation published	22 March 2019
Submissions due on Draft Report	8 April 2019
Final Report published	13 May 2019

AEMO has been and intends to continue to consult through the Five Minute Settlement¹ (5MS) program engagement channels.² The relevant engagement channels include:

- Procedures Working group (PWG)
- Systems Working Group (SWG)
- Settlements Focus Group (SFG)

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

The policy outlines procedures around how AEMO prepares and issues routine and special revised statements under the NER clause 3.15.19(e).

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 Settlement³ (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

¹ AEMC. 2017. National Electricity Amendment (Five Minute Settlement) Rule 2017. Available: <https://www.aemc.gov.au/sites/default/files/content/97d09813-a07c-49c3-9c55-288baf8936af/ERC0201-Five-Minute-Settlement-Final-Determination.PDF>

² For details on forums and groups specific to the 5MS program see: <http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement>

³ AEMC. 2018. National Electricity Amendment (Global Settlement and Market Reconciliation) Rule 2018. Available: <https://www.aemc.gov.au/rule-changes/global-settlement-and-market-reconciliation>



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.

AEMO is required to update and publish a number of specified relevant procedures by 1 December 2019, to apply from the commencement date. While the Policy is not one of the specified procedures, AEMO's 5MS program has identified it as one of the publicly consulted documents that require amendment for 5MS implementation.

2.2.3. Implementing Global Settlement

Implementing global settlement will remove the current 'settlement by differencing' framework that has been in place since the start of NEM.⁴

Under the new GS framework, every retailer will be billed for their customers' loss-adjusted metered electricity in a distribution area and their share of the unaccounted-for energy (UFE) attributable to that area. The final rule requires UFE to be calculated at the transmission connection point level. UFE is then allocated in proportion to each retailer's share of the loss-adjusted consumption in the local area.

GS will commence on 6 February 2022. The rule requires AEMO to calculate and publish UFE data from 1 July 2021, in line with the 5MS commencement date. This is so the industry is informed of the likely level of UFE and can potentially address sources of UFE prior to GS starting.

2.3. First stage consultation

On 14 December 2018, AEMO issued a Notice of First Stage Consultation, and published an Issues Paper and draft procedures for the 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 to address the impact of 5MS and GS, and to clarify and update other provisions of the Policy.

AEMO received three submissions in response to the first stage consultation. Copies of all written submissions, minutes of meetings and issues raised in forums (excluding any confidential information) have been published on AEMO's website.⁵ A detailed summary of issues raised by Consulted Persons in submissions, together with AEMO's responses, is contained in Appendix B.

3. DISCUSSION OF MATERIAL ISSUES

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

⁴ Embedded networks will continue to be settled using settlements by differencing within the network

⁵ For more details on the NEM Settlement Revisions Policy first stage consultation see: <http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Five-Minute-Settlement---NEM-Settlement-Revisions-Policy>



3.1. Potential effect of Five-Minute Settlement

3.1.1. Issue summary and submissions

From 1 July 2021, the duration of trading intervals will change from 30 minutes to five minutes because of the 5MS Rule. Settlement amounts will therefore be calculated using the spot price for each five-minute trading interval. Aside from this change in settlement calculation, AEMO proposes that its process of issuing revised statements and engaging with Market Participants will remain unchanged.

AEMO recognises there are some transitional considerations as 5MS is adopted. AEMO proposes introducing a new transitional clause in the Policy to confirm the following:

- Any routine and special revised statements covering settlement days before 1 July 2021 will be based on 30-minute prices, and from 1 July 2021 will be based on 5-minute prices.
- For the billing week in which the 1 July 2021 commencement date falls, settlement amounts will be separately aggregated for 30-minute and 5-minute settlement days.
- The change in trading interval duration by itself is not a reason to revise any settlement amount.

Origin and Alinta Energy were supportive of AEMO's proposed changes to the Policy and did not propose any alternative approaches.⁶ Alinta Energy noted that they do not expect these changes to alter market incentives or behaviour.⁷

Ergon Energy Queensland (EEQ) noted a preference for a full week of summated data and profiles at 30 mins to be extended to the end of the 5MS cutover week of 3 July 2021.⁸

3.1.2. AEMO's assessment

Stakeholder feedback from Origin and Alinta energy supported AEMO's proposed amendments to the Policy and proposed no other methods to transition to 5MS. AEMO notes that the proposed 5MS transitional amendments to the Policy do not affect the current process of settlement revisions, but are further clarifications around the 5MS transitional period. Therefore, AEMO considers the current proposed amendments appropriate as reflected in the draft Policy.

AEMO acknowledges EEQ's request for a full week of summated data and profiles at 30 mins to be extended to the end of the billing week on 3 July 2021. However, as defined by the 5MS final rule, settlement amounts will have to be based on 5-minute prices from the start of the day on 1 July 2021.

3.1.3. AEMO's conclusion

AEMO's draft determination is to maintain the proposed transitional clauses for 5MS as suggested in the Issues Paper.

3.2. Potential effect of Global Settlement

3.2.1. Issue summary and submissions

Under a GS environment, all retailers will bear the cost of their share of UFE. Given that UFE is one of many inputs to calculate adjusted gross energy (AGE), any change to how UFE is calculated may affect AGE and settlement amounts for Market Participants.

⁶ Origin, Submission to first stage consultation, p.2

⁷ Alinta Energy, Submission to first stage consultation, p.2

⁸ Ergon Energy Queensland, Submission to first stage consultation, p.2



As highlighted in the Issues Paper, AEMO's view is that any revision to or dispute about UFE volumes will be treated in the same way as any other component of a settlement amount. In this regard, AEMO did not consider that any specific amendments to the Policy were required to address UFE revisions.

Increased exposure to variability in settlement revisions due to metering estimates

Origin agreed with AEMO's proposed changes to the Policy, but provided further feedback that they do not believe the introduction of UFE will eliminate all scenarios which require a special revision. This is because the settlement calculations rely on basic meter profiling in periods of extreme weather or load.⁹

EEQ stated that as a Local Retailer with 95% of NEMs with Type 6 metering, the introduction of GS may result in more than 'minor' revisions. This is due to the increased exposure to errors in forward estimates of Type 6 metering under global settlement. These errors are also likely to be a large contributor to UFE.¹⁰

Suggestions to update the settlement revisions process

EEQ queried whether revisions caused by UFE can be handled by the existing settlement timeframes. EEQ suggested that special revised statements may be required as a standard practice between Revision 1 (R1)¹¹ and Revision (R2)¹² with consideration to extending R2 beyond 30 weeks. EEQ believes a new provision is required to articulate a suitable process for all parties.¹³

Origin requested that in the event that a variance in excess of 5% of statement value is reached, only 51% agreement amongst participants should be sufficient to trigger a special revision out of the procedure.¹⁴

3.2.2. AEMO's assessment

Additional clarification on the introduction of GS

To ensure that there is a clear understanding among the industry about transitioning to GS, AEMO has reconsidered its position and is proposing a new clause in the Policy to clarify that:

- Any routine and special revised statements covering settlement days before 6 February 2022 will be based on settlements-by-differencing, and from 6 February 2022 will be based on global settlements.
- The change from settlement-by-differencing to global settlement by itself is not a reason to revise any settlement amount.
- The allocation of UFE is dependent on energy volumes. Any changes to energy volumes in revision statements will also change the allocation of UFE to Market Participants.

Increased exposure to variability in estimated metering data for Type 6 metering

AEMO appreciates that the introduction of UFE may increase variances between revisions. However, the materiality of this variance is still not quantifiable, and will also be impacted by the commencement of 5MS.

AEMO notes that UFE data will be published from 1 July 2021, where there will be a window of 7 months before financial settlement comes into effect on 6 February 2022. AEMO will engage with participants during this period as necessary and assess whether further changes to relevant AEMO procedures are required (within the scope of the NER).

The associated methodology for estimated metering data for Type 6 metering is defined in Metrology Procedure: Part B. This is another AEMO procedure that will commence the Rules consultation process in

⁹ Origin, Submission to first stage consultation, p.3

¹⁰ Ergon Energy Queensland, Submission to first stage consultation, p.3

¹¹ Revision 1 is defined as the routine revised statement at 20 weeks, as defined in clause 3.2.3 of the NEM Settlement Estimates Policy

¹² Revision 2 is defined as the routine revised statement at 30 weeks, as defined in clause 3.2.3 of the NEM Settlement Estimates Policy

¹³ Ergon Energy, Submission to first stage consultation, p.3

¹⁴ Origin Queensland, Submission to first stage consultation, p.3



April 2019 for changes resulting from the 5MS and GS Rules. Participants are encouraged to make submissions to this consultation in relation to the methodology for forward estimates.

Suggestions to update the settlement revisions process

Existing settlement revision timeframes are currently defined in NER clause 3.15.19. The criteria for the issue of special revised statements are set out in clause 3.15.19(a)(3). The NER currently requires the issue of special revised statements to reflect the outcome of a disputed settlement statement where the adjustment amount is less than 95%, or more than 105%, of the final settlement amount. Given that the circumstances in which AEMO can issue a special revisions statement are prescribed in some detail in the NER, AEMO considers that they can only be extended to analogous situations. Any further amendments will require a rule change request to the AEMC.

The Policy allows AEMO to issue a settlement statement without a requirement to go through the dispute resolution process, but only if all affected Market Participants agree. This exception is to minimise the incurred cost from undergoing the dispute process for all impacted parties if the outcome is already unanimously agreed. AEMO considers agreement of all impacted parties can reasonably be considered as equivalent to a binding dispute resolution outcome.

Relating to Origin's request, AEMO is therefore unable to issue special revision statements if only 51% agreement is reached amongst impacted participants. The exception clause in the Policy described above will not apply because there will be differing preferred outcomes for parties involved in the revisions process. AEMO notes that clause 3.15.19(a) of the Rules requires all affected parties to undergo the formal dispute process to ensure a fair and equitable outcome.

3.2.3. AEMO's conclusion

AEMO's draft determination in relation to GS is to include an additional clause 3.1B in the Policy to clarify the basis for settlement in the week of transition to GS, as summarised in section 3.2.2 above and does not impact the revisions process. AEMO invites participants to comment on these proposed amendments in the second-round consultation.

AEMO acknowledges that the introduction of UFE may increase variability in settlement revisions, but concludes that there is insufficient information at this stage to determine whether any specific changes may be required to relevant procedures (to the extent permissible under the NER), and the nature of any such changes. Further assessments of variability can be made between 1 July 2021 and 6 February 2022 when UFE data is available, but not yet used for financial settlement.

AEMO does not consider that the Policy can extend the circumstances in which special revised statements can be issued.

4. OTHER MATTERS

This section involves matters not directly related to the Policy but raised in the consultation.

EEQ submitted a query regarding UFE disputes to clarify if any adjustments after Revision 1 will affect the 'Locked' NSLP. AEMO notes that the energy volume that makes up the area under the NSLP is the sum of all type 6 accumulation metering data and UFE. This is because the NSLP is determined by subtracting all interval metering data, from all energy inflows into a Local Area (i.e. a distribution network). Therefore, if the UFE dispute does not affect the interval metering data associated with the local area, the "Locked" NSLP is unlikely to be affected, depending on the nature of the dispute.

5. DRAFT DETERMINATION

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

**APPENDIX A. GLOSSARY**

Term or acronym	Meaning
5MS	Five-minute settlement
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AGE	Adjusted Gross Energy
EEQ	Ergon Energy Queensland
GS	Global settlement
NEM	National Electricity Market
NER	National Energy Rules
NSLP	Net System Load Profile
PCF	Program Consultative Forum
PWG	Procedures Working Group
Rules	National Energy Rules
SWG	Systems Working Group
UFE	Unaccounted for energy



APPENDIX B. SUMMARY OF SUBMISSIONS AND AEMO RESPONSES

No.	Respondent	Participant Comment	AEMO response
1.	Ergon Energy Queensland	<ul style="list-style-type: none"> • EEQ has concerns with the transitional clause for the cut over to 5MS during a settlement week. • EEQ preference would be for a full week of summated data and profiles at 30mins to be extended to the end of the cutover week i.e. 3 July 2021. 	<ul style="list-style-type: none"> • The 5MS final rule requires AEMO to conduct settlement based on five-minute prices instead of 30-minute prices after 1 July 2021 • AEMO is working on a transition approach for settlements and will present this at the SFG on 20 March 2019. Any further information will be communicated to participants through the SFG, PWG or SWG.
2.	Ergon Energy Queensland	<ul style="list-style-type: none"> • Routine revised statements at 20 weeks should include Actual Reads from consumption meters where as [sic] preliminary and finals are expected to have a large portion of meters as estimated. • For EEQ as a LR with 95% of NMs with Type 6 metering, the expected adjustments to revisions is unquantifiable under the subtraction method so global methods may realise more than 'minor' revisions. The causal effect of consumption meters to global settlements will subsequently impact other participants revisions where estimated reads likely to be a large attributor to UFE • EEQ has concerns with the handling of revisions, caused by UFE, can be incorporated into the existing settlement timeframes. • EEQ would welcome more details on the management of revisions under global settlement arrangements that extend over the settlement by difference timeframes. • Special revised statements may be required as a standard practice between R1 and R2 with consideration to extending R2 beyond 30 weeks. EEQ believes a new Policy/Clause is required to articulate a suitable process for all parties. 	<ul style="list-style-type: none"> • Existing settlement timeframes are currently defined in clause 3.15.19 of the Rules. Any changes to these timeframes will require a Rule change request submission to the AEMC. • AEMO appreciates that the introduction of UFE may increase variances between revisions. However, the materiality of this variance is still not quantifiable, and will also be impacted by the commencement of 5MS. • AEMO notes that UFE data will be published from 1 July 2021, where there will be a window of 7 months before financial settlement comes into effect on 6 February 2022. AEMO will engage with participants during this period as necessary and assess if further changes to AEMO procedures are required. • The associated methodology for estimated metering data for Type 6 metering is defined in Metrology Procedure: Part B. This is another AEMO procedure that will commence the Rules consultation process in April 2019. Participants are encouraged to make submissions to this consultation in relation to the methodology for forward estimates.
3.	Origin	<ul style="list-style-type: none"> • Origin does not believe the introduction of UFE will eliminate all scenarios which 	



		requires a special revision out of the procedure due to calculations relying on basic meter profiling in periods of extreme weather or load.	
4.	Ergon Energy Queensland	<ul style="list-style-type: none"> Open Question: If UFE is disputed and subsequently adjusted post R1, does it affect the 'Locked' NSLP? 	<ul style="list-style-type: none"> The NSLP is determined by subtracting all interval metering data, from all energy inflows into a Local Area (i.e. a distribution network). The energy volume that makes up the area under the NSLP is therefore the sum of all type 6 accumulation metering data and UFE. Therefore, if the UFE dispute does not affect the interval metering data associated with the local area, the "Locked" NSLP will not be affected.
5.	Origin	<ul style="list-style-type: none"> In the event that a threshold > 5% of statement value variance reached (i.e. affirmed by AEMO), at that juncture, Origin's position is that only 51% agreement amongst participants should be sufficient to trigger a special revision out of the procedure. 	<ul style="list-style-type: none"> The provision criteria for Special Revised Statements is currently defined in clause 3.15.19(a)(3) of the Rules. The Rules currently requires the issue of Special Revised Statements if it is the outcome of a dispute where the adjusted settlement amount is less than 95%, or more than 105% of the settlement amount. As defined in the Policy, a formal dispute is not required in the above scenario if AEMO and 100% of all affected Market Participants agree. This exception is to minimise dispute process costs for all affected parties if the outcome is already unanimously agreed amongst them. AEMO is unable to issue Special Revision Statements if only 51% agreement is reached amongst impacted participants. The exception clause in the Policy described above will not apply because there will be differing preferred outcomes for parties involved in the revisions process. AEMO notes that clause 3.15.19(a) of the Rules requires all affected parties to undergo the formal dispute process to ensure a fair and equitable outcome.
6.	Alinta Energy	<ul style="list-style-type: none"> Alinta Energy appreciates the work of the AEMO to improve the NEM Settlement Revisions Policy in anticipation of 5MS go live. 	<ul style="list-style-type: none"> AEMO notes the respondent's support of the proposed change.



- Alinta Energy notes the proposed amendments aims to improve consistency and enhance the clarity of the NEM Settlement Revision Policy by:
 - Inserting a new chapter 5MS transition to clearly outline that any routine and special revised statements for billing weeks and trading days until 1 July 2021 will be based on 30-minutes;
 - Clarify that any 30-minute to five-minute price change will not entitle market participants a dispute or a special revised statement;
 - Amending the policy to clearly reflect the NER and streamline to remove any unnecessary content;
 - Amending the chapter Principles to note the NER requirement for the policy;
 - Deleting the NEM calendar as the figure provides old information and the source calendar link has been corrected and provided.
- Alinta Energy does not expect these changes to alter market incentives or behaviour. On this basis, Alinta Energy understands and appreciates the need for these changes, and supports the enhanced quality these changes will add to the NEM Settlement Revisions Policy.