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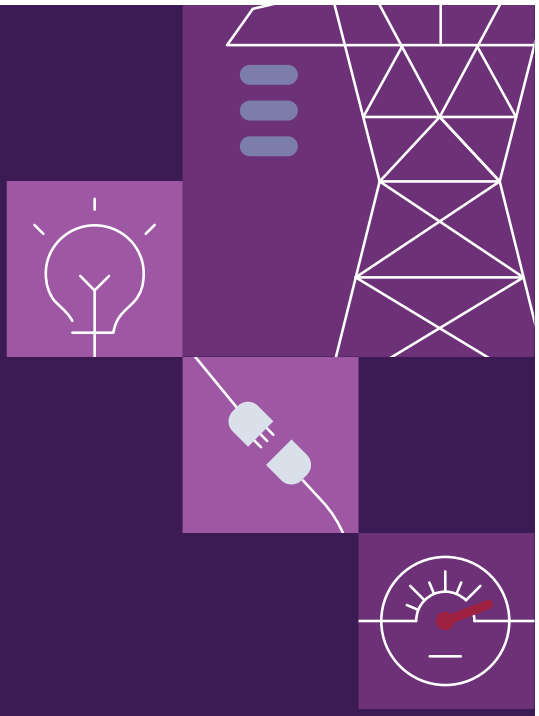

Load Profiling Methodologies Consultation

Draft Report – Standard consultation for the National Electricity Market

Published: 1 December 2022

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New South Wales | Queensland | South Australia | Victoria | Australian Capital Territory | Tasmania | Western Australia

Australian Energy Market Operator Ltd ABN 94 072 010 327

Executive summary and consultation notice

The publication of this draft report (**Draft Report**) commences the second stage of the standard consultation procedure conducted by AEMO to establish a viable longer-term Load Profiling Methodology under the National Electricity Rules (**NER**).

Subsequent to the implementation on 1 October 2021 of the Five-Minute Settlement Rule:

- An issue was identified where negative load profiling values were present.
- An interim solution was implemented to prevent these volume spikes until a longer-term solution could be identified and implemented.
- AEMO identified and assessed the potential viability of various longer-term methodologies, developing a proof of concept (**POC**) for each viable option to demonstrate its validity.

In the Issues Paper, AEMO sought comment and feedback on each of the following matters:

- Proposed objectives and principles to support the appropriate selection of a longer-term methodology.
- Proposed methodologies for both Five-Minute Load Profiles (**5MLPs**) and Net System Load Profiles (**NSLPs**).
- Three Electricity Retail Consultative Forum (**ERCF**) Issues and Change Forms (**ICF**):
    - ICF_055 - which seeks to clarify the process for obtaining and applying embedded network codes.
    - ICF_064 - which proposes to add the 'HouseNumberToSuffix' field to the market procedures and MSATS.
    - ICF_065 – which proposes to remove certain NMI Discovery Type 3 validations.

In response to the Issues Paper, AEMO received seven written submissions, including two late submissions.

The stakeholders raised the following two material issues:

1. The selection and application of the preferred longer-term load profiling methodology.
2. The optimal implementation date of the preferred longer-term methodology.

After considering the submissions received, AEMO's draft determination is to:

- Implement Option 6 as the longer-term methodology for 5MLPs.
- Implement Option 6 effective 1 October 2023.
- Perform additional analysis to determine the preferred longer-term solution for NSLPs.
- Implement the three ERCF ICFs on 30 May 2023.

To enable the draft determination, AEMO proposes to amend the following procedures with the proposed effective dates:

- 30 May 2023 for the ICFs outlined in the Issues Paper under Other Matters:
    - MSATS Procedures – CATS v5.5

- MSATS Procedures – WIGS v5.5
- Standing Data for MSATS document v5.5
- Retail Electricity Market Procedures – Glossary and Framework v3.9

- 1 October 2023 for the 5MLP longer-term Load Profiling Methodology:
  - Metrology Procedure: Part B v7.5
  - MSATS Procedure – MDM Procedures v4.4

Consultation notice

AEMO invites written submissions from interested persons on the draft proposal and issues identified in this Draft Report to NEM.Retailprocedureconsultations@aemo.com.au by 5:00pm (Melbourne time) on **Friday, 20 January 2023.** All submissions must be forwarded in electronic format (both pdf and Word).

Submissions may make alternative or additional proposals you consider may better meet the objectives of this consultation and the national electricity objective in section 7 of the National Electricity Law. Please include supporting reasons.

Please note the following important information about submissions:

- All submissions will be published on AEMO's website, other than confidential content.
- 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. Material identified as confidential may be given less weight in the decision-making process than material that is published.
- 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.

Interested persons can request a meeting with AEMO to discuss any particularly complex, sensitive or confidential matters relating to the proposal. Please refer to NER 8.9.1(k). Meeting requests must be received by the end of the submission period and include reasons for the request. AEMO will try to accommodate reasonable meeting requests but, where appropriate, we may hold joint meetings with other stakeholders or convene a meeting with a broader industry group. Subject to confidentiality restrictions, AEMO will publish a summary of matters discussed at stakeholder meetings.

1. Stakeholder consultation process

AEMO is consulting on Load Profiling Methodologies and other matters in accordance with the standard rules consultation procedure in NER 8.9.2.

This Draft Report uses terms defined in the NER, which are intended to have the same meanings. There is a glossary of additional terms and abbreviations in Appendix A.

AEMO's process and expected timeline for this consultation are outlined below. Future dates may be adjusted and additional steps may be included as needed, as the consultation progresses.

Table 1 Consultation process and timeline

Deliverable	Indicative date
Issues Paper published	Wednesday, 28 September 2022
Submissions due on Issues Paper	Thursday, 27 October 2022
Draft Report published	Thursday, 1 December 2022
Submissions due on Draft Report	Friday, 20 January 2023
Final Report published	Friday, 24 February 2023

AEMO's consultation webpage for the proposal is at **https://aemo.com.au/consultations/current-and-closed-consultations/load-profiling-methodologies-consultation** which contains all previous published papers and reports, written submissions, and other consultation documents or reference material.

AEMO thanks all stakeholders for their feedback on the proposal to date, which has been considered in preparing this Draft Report, and looks forward to further constructive engagement.

2. Background

2.1. Context for this consultation

AEMO's Meter Data Management (**MDM**) system generates the following load profiles, to support market settlement processes:

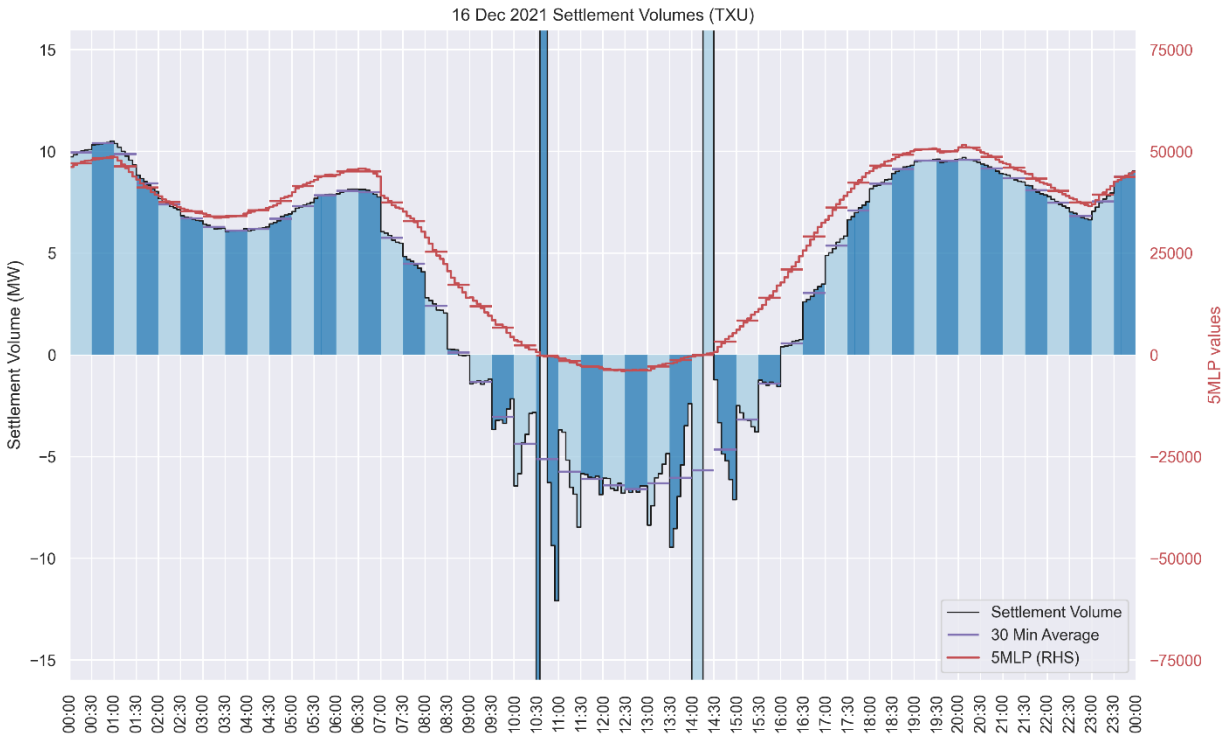
- 5MLPs, to convert 30-minute and 15-minute interval metering data into 5-minute intervals.
- NSLPs, to convert accumulation (basic meter) reads, that typically account for consumption over a 90-day period, into 5-minute intervals.

Subsequent to the implementation of the Five-Minute Settlement Rule, on 1 October 2022, an issue was identified where negative load profiling values were present as shown in figure 1.

A combination of positive and negative values can produce very high or very low profiled values after applying the 5MLP to 30-minute and 15-minute metering data or the NSLP to accumulation metering data (this is a consequence of having a small denominator value in the profiling algorithm).

The metering data would sum to the correct energy value over the period. However, the key risk is the potential for coincidental high spot/pool pricing, which may result in trading limit breaches for Financial Responsible Market Participants (**FRMPs**).

Figure 1 Negative Load Profiling Values



An interim solution was sought to manage these volume spikes as quicky as possible, until a longer-term solution could be identified and implemented. For the interim solution to be implemented quickly, it needed to leverage existing AEMO MDM functionality. The 'weights'

methodology was selected for this purpose. This methodology increases the system load component of the profiles, which artificially shifts the profiles up as shown in figure 3. Prior to any weights being applied, analysis of the system load is performed and confirmed with the respective Transmission Network Service Providers (**TNSPs**) and the Distribution Network Service Providers (**DNSPs**).

In the Issues Paper, AEMO sought stakeholder feedback regarding a preferred longer-term methodology, to better manage scenarios which may result in volume spikes occurring in either 5MLPs or NSLPs.

Figure 2 5MLP – No Weights

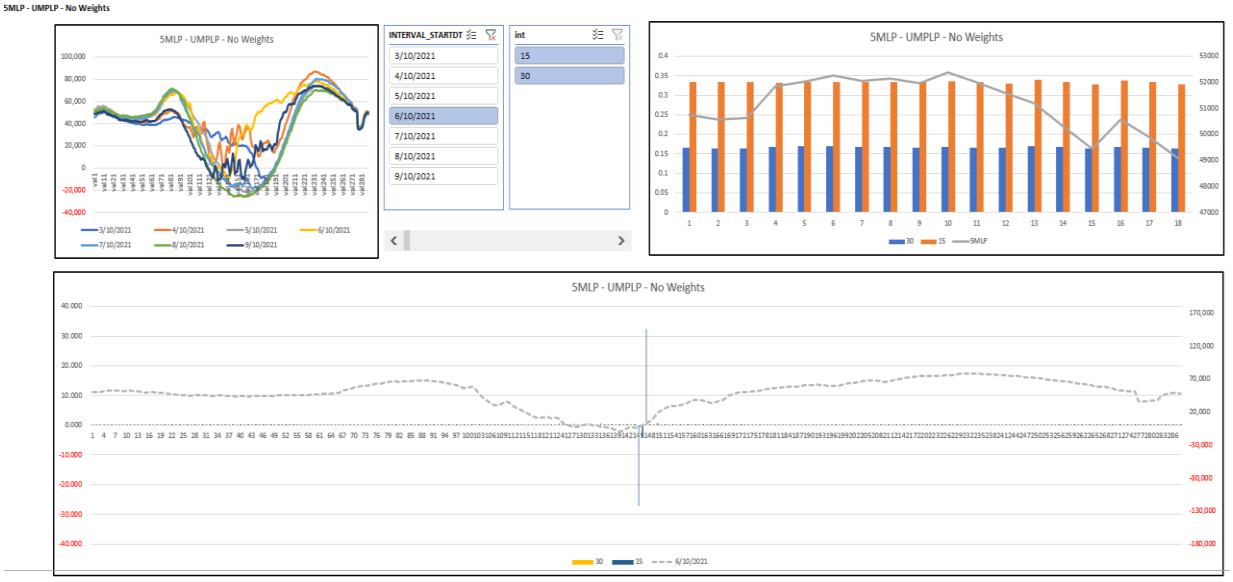
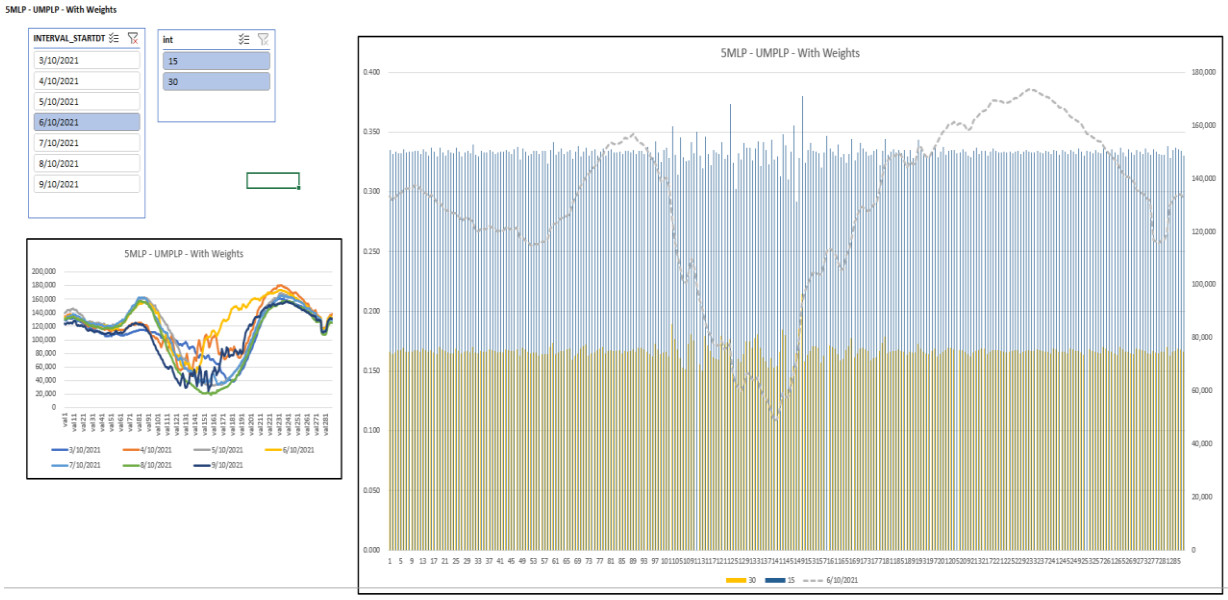


Figure 3 5MLP with Weights



3. Objectives and Principles

Through engagement with members of the ERCF, the following objectives and principles were established, to assist in the assessment of any potential longer-term methodologies:

- The shape of the curves for each metering type should be correctly representative
    - The profiles align with the expected energy volumes and consumption patterns for interval and consumption metering data.
- The magnitude of the curves for each metering type should be correctly representative
    - The energy quantities for each of the component curves are consistent with the expected energy volumes for interval and consumption metering data.
- The gradients of 5-minute values should match the gradients of the profile curves
    - The rate of change or slope of the profiled reads within a 30-minute or 15-minute interval matches the behaviour of the 5MLP.
- The application of the methodology should be consistent and standardised
    - The methodology is consistent and standardised across all system load TNIs and profile areas in all jurisdictions.

These objectives and principles were supported by all respondents to the Issues Paper.

4. Proposed Methodologies

Since the implementation of the interim solution, AEMO identified and assessed the potential viability of various methodologies, based on the agreed objectives and principles in section 3.

It is worth noting that the analysis AEMO has performed to date has been limited with respect to understanding the potential consequential impacts to NSLPs and to Unaccounted for Energy (**UFE**) allocations, due to the following factors (**AEMO Analysis Limitation Factors**):

- Issues in data quality in the early stages of Five-minute Settlements (5MS).
- Unavailability of the latest data in lower testing environments.
- The need for 365 days of data to scrutinise NSLP outcomes.
- The impact of the timing of methodology implementation on the profiling or allocation of the reads among the methodologies.
- The different trends and behaviours in respect of the several profile areas – the impact to UFE and the impact to NSLP may differ in different profile areas depending on the volume of five-minute meters.
- The different impacts on different NSLPs of the methodology applied to the 5MLPs.

The following methodologies were presented in the Issues paper as potential longer-term options, based on the objectives and principles:

Table 2 Proposed Load Profiling Methodologies

Option	Description
Option 1	The Uniform Allocation Method (**UAM**) is applied to **all** intervals associated to the effected day.
Option 5	The UAM is applied **to specific** intervals **that have crossed the x-axis** i.e., there is a combination of positive and negative values in the specific 30-minute or 15-minute interval.
Option 5(a)	The UAM is applied **to the specific** intervals that have crossed the x-axis. Additionally, the **UAM is applied to the immediately preceding and following 30-minute and 15-minute intervals** (number of intervals configurable). This is a variation of Option 5 with an additional buffer.
Option 6	The UAM is applied to intervals **where the load profile is negative** i.e., all intervals below the x axis. This results in a flat profile while the profile is negative.

4.1. NER requirements

AEMO is responsible for the establishment and maintenance of retail electricity market procedures specified in NER Chapter 7, except for procedures established and maintained under NER 7.17.

The procedures authorised by AEMO under NER Chapter 7 must be established and maintained by AEMO in accordance with the NER consultation procedures.

4.2. The national electricity objective

Within the specific requirements of the NER applicable to this proposal, AEMO will seek to make a determination that is consistent with the national electricity objective (**NEO**) and, where considering options, to select the one best aligned with the NEO.

The NEO is expressed in section 7 of the National Electricity Law as:

> 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.

5. List of material issues

The key material issues arising from the proposal or raised in submissions or consultation meetings are listed in the following table:

Table 3 List of material issues

No.	Issue	Raised by
1.	Selection and application of the preferred Load Profiling Methodology	Multiple Respondents
2.	The preferred implementation date of the longer-term methodology	AEMO

A detailed table of issues raised by stakeholders in written submissions to the consultation paper, together with AEMO's responses, is contained in Appendix B.

Each of the material issues in Table 3Table 3 are discussed in Section 66.

6. Discussion of material issues

6.1. Selection and application of the preferred Load Profiling Methodology

6.1.1. Issue summary and submissions

In their submissions, most respondents supported Options 5, Option 5(a) and Option 6, stating that these options would best manage the risk of negative events and spikes. Option 6 was supported by the most respondents.

Specifically:

- AGL suggested a review mechanism should be established to consider the methodology in use and to evaluate its fit-for-purpose during the transition from 15min, 30min and accumulation meters to 5min capable meters.
- Origin noted its preference to see more worked examples of the application of Options 5 and 6 over a larger data set to verify their appropriateness, noting the limitations advised by AEMO. Origin echoed AGL's suggestion of a periodic review by AEMO to ensure the selected methodology continues to achieve the agreed objectives and principles.
- All respondents, except for AGL, agreed that the preferred methodology should be applied to both 5MLPs and NSLPs.
- AGL considered that the application of the profiling methodologies should be minimised and applied only where necessary. Accordingly, AGL did not support the application of the methodology to both 5MLPs and NSLPs at this stage. As stated in the discussion paper, the NSLPs require a longer period (365 days) for analysis.

6.1.2. AEMO's assessment

Option 6 applies the UAM for all intervals below the X axis, including the 15-minute or 30-minute periods in which the crossing has occurred, in order to produce a flat profile while negative. The UAM is continued to be used for all the intervals where the curve is below the X axis and for the last 15-minute or 30-minute period where the curve comes back above the X axis.

When scrutinised against the objectives and principles, Option 6 and Option 5(a) scored the highest result. AEMO observed during its POC analysis that:

- The gradient associated to Option 6 where the interval is positive, is positive and consistent; and
- Although it is still possible to have small spikes due to low denominator occurrences, this is less likely.

The issue of negative load profiling values is not contained to the 5MLPs. The combination of positive and negative values can produce very high or very low profiled values after applying the NSLP to accumulation metering data as a consequence of having a small denominator value in the profiling algorithm. However, to date, the analysis AEMO has been able to

undertake has been limited with respect to understanding the potential consequential impacts to NSLPs, due to the AEMO Analysis Limitation Factors which are set out above in Section 4.

AEMO is concerned with the application of Option 6 to accumulation metering data, as it is profiled over the entire length of the read e.g. 90 days. As profiled values could potentially cross the X axis multiple times over the period of the read, the application of Option 6 could essentially result in a flat profile for all intervals across the read period. AEMO does not believe that this would be acceptable outcome for FRMPs as this would result in the profiled values being the same for all intervals, which is not representative of typical consumption patterns.

6.1.3. AEMO's conclusion

AEMO has determined that Option 6 is the preferred longer-term methodology to support 5MLPs. However, due to an inability to complete sufficient analysis to more comprehensively understand the potential impacts of applying this methodology to NSLPs, AEMO is removing this consideration from the consultation. Once sufficient analysis has been performed, AEMO will re-engage stakeholders to consider longer-term options.

6.2. The preferred implementation date of the longer-term methodology

6.2.1. Issue summary and submissions

AGL stated, "AGL strongly suggest that additional allowances be made for an additional revision to resolve any unintended consequences and keep participants whole."

AGL considered that careful attention needs to be paid to the transition between methodologies to ensure consistency in profiles are maintained, so that disaggregated meter reads continue to reflect a representative shape.

6.2.2. AEMO's assessment

While most respondents were comfortable with an implementation date of 30 May 2023, AEMO believes that this transition should occur during a historically less volatile pricing period.

The implementation date of the preferred longer-term methodology represents the removal of the interim weights solution.

The removal of the interim solution will create a step change (decrease) in the applicable load profiling values for which this methodology had been previously applied to, in the opposite direction to its initial application. This will result in a shift in the accumulation metering load to the period before the effective date of the change, with less load allocated to the period after the effective date of the change, compared to the outcome if the entire period were covered by consistent weights.

While accumulation metering volumes will be shifted during the removal of the interim solution, the total billed energy remains whole. To reduce the probability of high price volatility, choosing the shoulder season for implementation is seen as being prudent, particularly given the high level of price volatility observed in May, June and July 2022. The shoulder season in the AEMO Credit Limits Procedure is defined as the October – November period. The Credit

Limits Procedures effectiveness reports generally demonstrate lowest average prices in this period.

Given that the effective date of the implementation of the weights interim solution was on 1 October 2021, AEMO proposes an effective date of Option 6 to 5MLPs of 1 October 2023.

6.2.3. AEMO's conclusion

AEMO determines that Option 6 should become effective from 1 October 2023 for 5MLPs, as this period historically has demonstrated the lowest average prices and it is the first day of a settlement week (2023Wk23).

Questions

1. Do you disagree with AEMO's proposed implementation date of 1 October 2023? If yes, why?

7. Other matters

7.1. ERCF ICFs

All respondents supported the three ICFs raised in the Issues Paper:

- ICF_055 Clarifying the process for obtaining and applying embedded network codes.
- ICF_064 Adding of the 'HouseNumberToSuffix' field to the market procedures and MSATS.
- ICF_065 Removal of the specified NMI Discovery Type 3 validation.

7.2. Retail Electricity Market Procedures – Glossary and Framework

The definition of the Last Consumer Change Date (LCCD) has been included in the Retail Electricity Market Procedures – Glossary and Framework v3.9, with the effective date of 30 May 2023. A change marked version of this procedure has been included as a part of this draft report.

7.3. MSATS Procedure – MDM Procedures

An additional change to the MSATS Procedure - MDM Procedure v4.4 has been included in this draft report. The change includes an to update to the description of the RM46 Report in section 9.16.

8. Draft determination on proposal

Having considered the matters raised in submissions to the Issues Paper, AEMO's draft determination is to:

- Implement Option 6 as the longer-term methodology for 5MLPs.
- Implement Option 6 on 1 October 2023.
- Perform additional analysis in determined the preferred longer-term solution for NSLPs.
- Implement the three ERCF ICFs on 30 May 2023.
- Add the Last Consumer Change Date (LCCD) definition to the Retail Electricity Market Procedures – Glossary and Framework document
- Update the description of the RM46 Report in section 9.16 of the MSATS Procedure - MDM Procedure

The following procedures are to be amended in the form published with this Draft Report, in accordance with the NER:

- MSATS Procedures - CATS v5.5 - Effective date 30 May 2023
- MSATS Procedures - WIGS v5.5 - Effective date 30 May 2023
- Standing Data for MSATS v5.5 - Effective date 30 May 2023
- Retail Electricity Market Procedures – Glossary and Framework v3.9 - Effective date 30 May 2023
- Metrology Procedure Part B v7.5 - Effective date 1 October 2023
- MSATS Procedures - MDM Procedure v4.4 - Effective date 1 October 2023

Appendix A. Glossary

Term or acronym	Meaning
5MLP	Five Minute Load Profile
CATS	Consumer Administration and Transfer Solution, a part of MSATS.
ERCF	Electricity Retail Consultative Forum
FRMP	Financially Responsible Market Participant
ICF	Issue / Change Form
LNSP	Local Network Service Provider
MSATS	Market Settlements and Transfer Solution
NEM	National Electricity Market
NER	The National Electricity Rules made under Part 7 of the National Electricity Law
NMI	National Metering Identifier
NSLP	Net System Load Profile
POC	Proof of Concept
UAM	Uniform Allocation Method

Appendix B. List of Submissions and AEMO Responses

Table 4 Feedback on Load Profiling Objectives and Principles

No.	Question	Stakeholder	Participant comments	AEMO response
1	Do you agree with the proposed objectives and principles?	AGL	AGL considers that the proposed Objectives and Principles are appropriate for this consultation.	AEMO notes the respondent's approval of the proposed objectives and principles.
2	Do you agree with the proposed objectives and principles?	Alinta	The proposed objectives and principles seem appropriate to address the issue identified.	AEMO notes the respondent's approval of the proposed objectives and principles.
3	Do you agree with the proposed objectives and principles?	Energy Australia	EnergyAustralia agrees with the proposed Objectives and principles.	AEMO notes the respondent's approval of the proposed objectives and principles.
4	Do you agree with the proposed objectives and principles?	Origin	Agree	AEMO notes the respondent's approval of the proposed objectives and principles.
5	Do you agree with the proposed objectives and principles?	Red Lumo	Red Energy and Lumo Energy (Red and Lumo) agree with the proposed objectives and principles.	AEMO notes the respondent's comment. AEMO notes this was a late submission.
6	Do you agree with the proposed objectives and principles?	Telstra	Telstra Energy agree with the proposed Load Profiling Objectives and Principles.	AEMO notes the respondent's approval of the proposed objectives and principles.
7	Are there any other objectives and principles you believe should be considered?	AGL	At this stage, the objectives are appropriate. However, AGL notes that the conversion of existing meters to 5 min meters will accelerate during the last months of 2022 and the rollout of new meters may accelerate following the AEMC review. As such, AGL strongly suggest that some sort of reporting or review mechanism be put in place to consider the methodology in use and evaluate if the methodology chosen is appropriate in an environment with a significant increase in the number of 5 min meters, and similar reductions in 30/15 and accumulation meters. It may be that different profiling mechanisms are needed in those jurisdictions moving from predominantly accumulation to 5 ms, versus those which may be predominantly 30 min (ie Vic) for many years to come.	AEMO will consider what form of monitoring can be implemented.
8	Are there any other objectives and principles you believe should be considered?	Alinta	N/A	
9	Are there any other objectives and principles	Energy Australia	N/A	

No.	Question	Stakeholder	Participant comments	AEMO response
	you believe should be considered?			
10	Are there any other objectives and principles you believe should be considered?	Origin	No	AEMO notes the respondent's comment.
11	Are there any other objectives and principles you believe should be considered?	Origin	No	AEMO notes the respondent's comment.
12	Are there any other objectives and principles you believe should be considered?	Red Lumo	Red and Lumo propose for the following: - The impact of the profiles on the settled volumes (and pool prices) should be proportionate or representative of the expected settled volumes. - Manage the need to ensure daily loads down to interval loads are clean - Ensure there are no impacts to net generation at a site level. - Daily net generation sites should not have an inverted consumption/generation profile.	AEMO notes the respondent's comment. AEMO notes this was a late submission.
13	Are there any other objectives and principles you believe should be considered?	Telstra	Telstra Energy recommend the following additional objective/principle: The methodology should seek to reduce (and preferably avoid) unexpected excessive peaks in settlement values for individual participants Participants should not be exposed to excessive settlement outcomes due to the application of inaccurate mathematical assumptions	AEMO notes the respondent's comment.

Table 5 Feedback on Load Profiling Methodologies

No.	Question	Stakeholder	Participant comments	AEMO response
1	Which methodology do you consider would best achieve the objectives and principles? Why?	AGL	AGL agrees with the assessment undertaken by AEMO and the industry working group that Option 5 or 6 seem the be the best choices at this time. At this stage it's very difficult to be clear whether the issue with Option 5 (negative gradient) or the issue with Option 6 (magnitude) is more problematic. AGL is very aware that due to the magnitude and variability of the real data the ability to sandbox these proposals to make a better determination prior to implementation of either option is not possible. It is also not clear whether both Option 5 and Option 6 can be implemented and the profiling system be switched between the	AEMO notes the respondent's comments and support for option 5 or option 6.

No.	Question	Stakeholder	Participant comments	AEMO response
			two options (at least for the purpose of assessment) against real data. Assuming that only one option can be implemented, then at this stage AGL considers that Option 5 may be the better choice. However, AGL notes that the choice of option 5 or 6 is very close and can see both benefits and issues with both. If more information comes to light suggesting Option 6 is more appropriate, AGL would accept that choice.	
2	Which methodology do you consider would best achieve the objectives and principles? Why?	Alinta	Alinta Energy does not have a strong view on whether options 5, 5(a) or 6 would best achieve the objectives and principles- all rank closely according to AEMO's grading criteria. Option 5(a) and 6 are slightly preferred as option 5(a) does provide a buffer either side of the profile crossing the x-axis. Option 6 addresses the negative (below the x-axis) events and reduced the risk of spikes.	AEMO notes the respondent's comments and support for option 5 or option 6.
3	Which methodology do you consider would best achieve the objectives and principles? Why?	Energy Australia	Option 3a.	AEMO notes the respondent's comment.
4	Which methodology do you consider would best achieve the objectives and principles? Why?	Origin	Origin considers with the limited information available, that the application of methodology 6 allowing for more consistent application of the load profile, with reduced spikes is preferable. Origin would prefer to see more worked examples of the application of Profile 5 and 6 over a larger data set to validate this preference, noting the limitations advised by AEMO. Origin recommends a periodic review and report by AEMO to ensure and make transparent the 5MLP adjustment is achieving the objectives and principles.	AEMO notes the respondent's comments and support for option 6.
5	Which methodology do you consider would best achieve the objectives and principles? Why?	Red Lumo	Red and Lumo are still in process of analysing and reviewing the options provided with our own portfolio & historical data to date. We are currently not in a position to commit our support for one of the proposed methodologies. At this stage, we do not support options 1 or 6 as viable options. For option 1, the problem trying to be mitigated occurs over too many days for it to be useful, and option 6 is not beneficial for sites with net generation which would be adversely impacted.	AEMO notes the respondent's comment. AEMO noted the respondent does not support option 1 or option 6.
6	Which methodology do you consider would best achieve the objectives and principles? Why?	Telstra	Of the proposals, Telstra Energy prefer Option 5 as we believe this option best meets the objectives.	AEMO notes the respondents support for options 5.

No.	Question	Stakeholder	Participant comments	AEMO response
7	When do you consider the preferred methodology should be implemented? On 30 May 2023?	AGL	AGL notes the proposed implementation date – but as this may cause extended problems which may not be visible or understandable until final revisions, AGL proposes that Settlement revisions be allowed if this change shows unusual occurrences up to final revisions. When the previous change was made in 2021, Participants had some expectations that issues would be washed up in final revisions. This was not the case. As such, with this form of change to the profiling mechanisms, AGL strongly suggest that additional allowances be made for an additional revision to resolve any unintended consequences and keep participants whole. AGL believes that careful attention needs to be paid to the transition period between methodologies to ensure consistency in profiles are maintained so that disaggregated meter reads closely reflect actual shape to prevent the undesirable situation that occurred during the transition on 1 Oct 2021.	
8	When do you consider the preferred methodology should be implemented? On 30 May 2023?	Alinta	We do not have specific views on implementation date for the preferred approach, but May 2023 provides time for AEMO to build, apply (and test) the method selected.	AEMO notes the respondent's comment.
9	When do you consider the preferred methodology should be implemented? On 30 May 2023?	Origin	ASAP once it has been verified the application of methodology will achieve the desired results.	AEMO notes the respondent's comment.
10	When do you consider the preferred methodology should be implemented? On 30 May 2023?	Red Lumo	Red and Lumo are okay with this date.	AEMO notes the respondent's comment. AEMO notes this was a late submission.
11	When do you consider the preferred methodology should be implemented? On 30 May 2023?	Telstra	If possible, Telstra Energy prefer implementation on the 30 May 2023.	AEMO notes the respondent's comment.
12	Do you consider that an alternative methodology would better achieve the objectives and principles? Please note that the selection of an alternative methodology would likely result in a delay to the longer-term methodology	AGL	AGL considers the other options are less effective (in the current environment), but again considers that the types of meter data being provided to the market are rapidly changing, and that the profiling methodologies will need to keep up with these changes.	AEMO notes the respondent's comment.

No.	Question	Stakeholder	Participant comments	AEMO response
	being implemented, as AEMO would need to develop, analysis and test this alternative.			
13	Do you consider that an alternative methodology would better achieve the objectives and principles? Please note that the selection of an alternative methodology would likely result in a delay to the longer-term methodology being implemented, as AEMO would need to develop, analysis and test this alternative.	Alinta	This would require further analysis by FRMPs and interested parties. The chosen option should be reviewed and refined over time (as we suspect AEMO will do anyway) and if changed further, consulted on with market participants.	AEMO notes the respondent's comment.
14	Do you consider that an alternative methodology would better achieve the objectives and principles? Please note that the selection of an alternative methodology would likely result in a delay to the longer-term methodology being implemented, as AEMO would need to develop, analysis and test this alternative.	Energy Australia	N/A	
15	Do you consider that an alternative methodology would better achieve the objectives and principles? Please note that the selection of an alternative methodology would likely result in a delay to the longer-term methodology being implemented, as AEMO would need to develop, analysis and test this alternative.	Origin	No	AEMO notes the respondent's comment.

No.	Question	Stakeholder	Participant comments	AEMO response
	Do you consider that an alternative methodology would better achieve the objectives and principles? Please note that the selection of an alternative methodology would likely result in a delay to the longer-term methodology being implemented, as AEMO would need to develop, analysis and test this alternative.	Red Lumo	Red and Lumo do not have a proposed alternative methodology.	AEMO notes the respondent's comment. AEMO notes this was a late submission.
16	Do you consider that an alternative methodology would better achieve the objectives and principles? Please note that the selection of an alternative methodology would likely result in a delay to the longer-term methodology being implemented, as AEMO would need to develop, analysis and test this alternative.	Telstra	Telstra Energy recommend a variation to Option 5 which would address the issues attempted to be addressed by Option 5a. In this option, the UAM would be applied to any specific 15- or 30-minute interval **approaches rather than crosses the x axis**. This would ensure that all intervals with a very small numerator would be subject to the UAM. This number should be set by AEMO in consultation with participants during this consultation. It is the small numerator which is the primary cause of the issue rather than crossing the x axis. Telstra Energy also recommend that in this option AEMO be given the authority under the guidelines to set the level which would trigger to application of UAM. This would mean that changes could be promptly made, where urgent action is required, without the need for timely consultation processes. Of course, AEMO could still consult on the initial setting and any subsequent changes in the absence of urgency. Additionally, Telstra Energy recommend the AEMO systems be established with this level as a configurable parameter so that changes can be implemented without the need for software releases and associated regression and other testing.	AEMO will consider what form of threshold can be implemented.
17	Do you believe the preferred methodology should be applied to both 5MLPs and NSLPs where the observed conditions have been met? If no, why?	AGL	AGL considers that the application of the profiling methodologies should be minimised and applied only where necessary and therefore does not support the application of the methodology to both 5MLPs and NSLPs at this stage. As stated in the discussion paper, the NSLPs require a longer period (365 days) for analysis. AGL does consider that once the initial profiling methodology is implemented for the 30/15 minute meters, the NSLP should	AEMO notes the respondent's comment. The chosen methodology will only be applied to the 5MLP at this stage.

No.	Question	Stakeholder	Participant comments	AEMO response
			be monitored with a view to updating the NSLP profiling post the 365 day period if warranted. Noting the time to implement such a solution for the NSLP, AGL wishes to understand if there will be sufficient indicative data by Dec 2023 to warrant commencing a consultation – times for May 2024 – to update the NSLP.	
18	Do you believe the preferred methodology should be applied to both 5MLPs and NSLPs where the observed conditions have been met? If no, why?	Alinta	For consistency, the preferred method should apply to both the 5MLPs and the NSLPs.	AEMO notes the respondent's comment.
19	Do you believe the preferred methodology should be applied to both 5MLPs and NSLPs where the observed conditions have been met? If no, why?	Energy Australia	EnergyAustralia agree that the methodology should be applied in a uniform manner so across both NSLP & 5MLP where applicable.	AEMO notes the respondent's comment.
20	Do you believe the preferred methodology should be applied to both 5MLPs and NSLPs where the observed conditions have been met? If no, why?	Origin	Yes	AEMO notes the respondent's comment.
21	Do you believe the preferred methodology should be applied to both 5MLPs and NSLPs where the observed conditions have been met? If no, why?	Telstra	Yes.	AEMO notes the respondent's comment.

Table 6 Feedback on proposed Other Matters

No.	Question	Stakeholder	Participant comments	AEMO response
1	Do you agree with the proposal to removal of the current NMI Discovery Type 3 validation? If not, please specify your reasoning.	AGL	AGL supports this change. There are NERR obligations to correct 'won in error' transfers up to at least 12 months. There are also situations of crossed meters which require a coordinated approach. As such, barriers to supporting these obligations should be removed.	AEMO notes the respondents comment and support for the change.
2	Do you agree with the proposal to removal of the	Alinta	Agreed	AEMO notes the respondent's comment. AEMO notes this was a late submission.

No.	Question	Stakeholder	Participant comments	AEMO response
	current NMI Discovery Type 3 validation? If not, please specify your reasoning.			
3	Do you agree with the proposal to removal of the current NMI Discovery Type 3 validation? If not, please specify your reasoning.	Energy Australia	EnergyAustralia agree with the proposal to remove the current NMI Discovery Type 3 validation.	AEMO notes the respondents comment and support for the change.
4	Do you agree with the proposal to removal of the current NMI Discovery Type 3 validation? If not, please specify your reasoning.	Origin	Origin, being the proponent of this change, strongly supports this ICF. Moreover, provided there are no 'Procedural' changes required for this ICF, Origin suggests expediting this change instead of bundling it with the May 2023 release.	AEMO notes the respondents comment and support for the change. The next AEMO system change is scheduled for 30 May 2023.
5	Do you agree with the proposal to removal of the current NMI Discovery Type 3 validation? If not, please specify your reasoning.	Red Lumo	-	
6	Do you agree with the proposal to removal of the current NMI Discovery Type 3 validation? If not, please specify your reasoning.	Telstra	Telstra Energy notes the need to address transfers in error is not limited to the retrospective NEM Settlement period. This may be achieved through both on and off market approaches. Accordingly, Telstra Energy agree with the proposed amendments relating to ICF_065.	AEMO notes the respondents comment and support for the change.
7	Do you agree that the proposed amendments associated with obtaining and applying embedded network codes provide for the correct interpretation of the procedures, as well as achieving industry objectives? If no, then please provide a better alternative.	AGL	AGL notes that the matter is more for DNSPs but supports this change.	AEMO notes the respondents comment and support for the change.
8	Do you agree that the proposed amendments associated with obtaining and applying embedded network codes provide for the correct interpretation of the procedures, as well as achieving industry objectives? If no, then	Alinta	Agreed	AEMO notes the respondent's comment. AEMO notes this was a late submission.

No.	Question	Stakeholder	Participant comments	AEMO response
	please provide a better alternative.			
9	Do you agree that the proposed amendments associated with obtaining and applying embedded network codes provide for the correct interpretation of the procedures, as well as achieving industry objectives? If no, then please provide a better alternative.	Energy Australia	EnergyAustralia agree with the proposed amendments associated with obtaining and applying embedded network codes provide for the correct interpretation of the procedures, as well as achieving industry objectives?	AEMO notes the respondents comment and support for the change.
10	Do you agree that the proposed amendments associated with obtaining and applying embedded network codes provide for the correct interpretation of the procedures, as well as achieving industry objectives? If no, then please provide a better alternative.	Red Lumo	-	
11	Do you agree that the proposed amendments associated with obtaining and applying embedded network codes provide for the correct interpretation of the procedures, as well as achieving industry objectives? If no, then please provide a better alternative.	Telstra	Telstra Energy has experienced difficulty in the past with obtaining embedded network codes from LNSP's where no changes to the distribution infrastructure are required. We support this change as it makes the obligation on LNSP's to provide embedded network codes promptly is made clear. For this reason, Telstra Energy agree with the proposed amendments relating to ICF_055.	AEMO notes the respondents comment and support for the change.
12	Do you agree that the inclusion of the 'House Number To Suffix' element enables a better quality site address to be recorded for energy participants? If not, please specify your reasoning.	AGL	AGL supports this change. Addressing is a key issue within the industry and industry data needs to be as accurate and complete as possible.	AEMO notes the respondents comment and support for the change.

No.	Question	Stakeholder	Participant comments	AEMO response
	Do you agree that the inclusion of the 'House Number To Suffix' element enables a better quality site address to be recorded for energy participants? If not, please specify your reasoning.	Alinta	Agreed	AEMO notes the respondent's comment. AEMO notes this was a late submission.
13	Do you agree that the inclusion of the 'House Number To Suffix' element enables a better quality site address to be recorded for energy participants? If not, please specify your reasoning.	Energy Australia	EnergyAustralia agree that the inclusion of the 'House Number To Suffix' element enables a better quality site address to be recorded.	AEMO notes the respondents comment and support for the change.
14	Do you agree that the inclusion of the 'House Number To Suffix' element enables a better quality site address to be recorded for energy participants? If not, please specify your reasoning.	Origin	Origin, being the proponent of this change, strongly supports this ICF.	AEMO notes the respondents comment and support for the change.
15	Do you agree that the inclusion of the 'House Number To Suffix' element enables a better quality site address to be recorded for energy participants? If not, please specify your reasoning.	Red Lumo	Red and Lumo agree with the proposal.	AEMO notes the respondent's comment. AEMO notes this was a late submission.
16	Do you agree that the inclusion of the 'House Number To Suffix' element enables a better quality site address to be recorded for energy participants? If not, please specify your reasoning.	Telstra	Telstra Energy believes it is critical that AEMO systems and procedures accurately reflect the relevant Australian Standards, the aseXML schema and all relevant procedures. For this reason, Telstra Energy agree with the proposed amendments relating to ICF_064.	AEMO notes the respondents comment and support for the change.

Table 7 Other Issues Related to the Load Profiling Methodologies and Other Matters

No.	Participant comments	Stakeholder	AEMO response
17	AGL notes that there is a confluence of events occurring within meter data and wholesale settlements and retail allocations. This ranges from the conversion of meters to 5ms, rollout of replacement meters to 5ms and the allocations of UFE, which is directly affected by the profiling outcomes. As such, AGL considers that it will be very difficult to separate and isolate the impact of all these factors easily, or at all, and urges AEMO to consider developing some sort of analysis / reporting process for the profiling methodology in use, as well as tracking the number of 5ms meters vs non-5ms meters that are installed for the foreseeable future. AGL notes that while the issue of UFE already has a reporting framework being developed, that framework is independent of these other matters.	AGL	AEMO notes the respondent's comment.
18	No further comments.	Alinta	
19	No further comments	Origin	
20	We currently receive the net system load profile in terms of volumes, and undertake a calculation to work out the % per day - an activity which each participant would need to do themselves. Given AEMO are likely to change profiling in future, we would like to propose that it would be good for AEMO to provide that proportion themselves. This would reduce the need for participants to change their codes to calculate the proportion themselves. This would be in addition to the volumes being provided by AEMO and not in replacement to.	Red Lumo	AEMO notes the respondent's comment. AEMO notes this was a late submission.
21	No further comments	Telstra	