

METERING ICF PACKAGE

ISSUES PAPER

Published: **May 2019**





© 2019 Australian Energy Market Operator Limited. The material in this publication may be used in accordance with the [copyright permissions on AEMO's website](#).



EXECUTIVE SUMMARY

The publication of this Issues Paper commences the first stage of the Rules consultation process conducted by AEMO under the National Electricity Rules (NER) to consider proposed amendments to the:

- MSATS Procedures: CATS
- MSATS Procedures: WIGS
- Metrology Procedure: Part A
- Metrology Procedure: Part B
- Service Level Procedure Meter Data Provider Services
- Service Level Procedure Meter Provider Services
- Service Level Procedure Embedded Network Manager Services
- Exemption Procedure Meter Installation Malfunctions

In summary, the key proposals involve:

- changes to various metering procedures to implement recommended process improvements from proponents and AEMO; and
- updates to various Metering procedures to align the procedures with changed rule references.

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

AEMO also asks stakeholders to identify any unintended adverse consequences of the proposed changes.

Stakeholders are invited to submit written responses on the issues and questions identified in this paper by 5.00 pm (Melbourne time) on 24 June 2019, in accordance with the Notice of First Stage of Consultation published with this paper.



CONTENTS

EXECUTIVE SUMMARY	2
1. STAKEHOLDER CONSULTATION PROCESS	4
2. BACKGROUND	5
2.1 NER requirements	5
2.2 Context for this consultation	5
2.2.1 Structure of AEMO's Retail Electricity Market Procedures	6
3. CHANGE PROPOSALS	7
3.1.1 Updating MSATS about remote de-energisation and remote re-energisation	7
3.1.2 Define timeframes for updating datastreams in MSATS	7
3.1.3 Clarifying the LNSP's obligations in relation to creating Embedded Network Codes	7
3.1.4 CT and VT Standards to include IEC61869	7
3.1.5 Linear interpolation substitution type for accumulation metering installations	8
3.1.6 Clarifying communication for identification of incorrect NMI and metering installation	8
3.1.7 Delivery of metering data while the NMI status is not Active	8
3.1.8 Verification of Metering Data for whole current Small Customer Metering Installations, Type 4A, 5, 6 and 7 Metering Installations	9
3.1.9 Clarifying ENM's obligations with respect to DLFs, Network Tariff Codes and EN exemption	9
4. DRAFTING FOR PROPOSED CHANGES	10
5. METERING PROCEDURES	11
5.1 MSATS Procedures: CATS	11
5.2 MSATS Procedures: WIGS	12
5.3 Metrology Procedures: Part A	12
5.4 Metrology Procedures: Part B	13
5.5 Service Level Procedure Meter Data Provider Services	13
5.6 Service Level Procedure Meter Provider Services	14
5.7 Service Level Procedure Embedded Network Manager	14
5.8 Exemption Procedure Meter Installation Malfunctions	14
6. SUMMARY OF MATTERS FOR CONSULTATION	16
APPENDIX A - GLOSSARY	17



1. STAKEHOLDER CONSULTATION PROCESS

As required by the NER, AEMO is consulting on amendments to several metering procedures in accordance with the Rules consultation process in Rule 8.9.

Note that there is a glossary of terms used in this Issues Paper at Appendix A.

AEMO's indicative timeline for this consultation is outlined below. Dates may be adjusted depending on the number and complexity of issues raised in submissions and any meetings with stakeholders.

Deliverable	Indicative date
Issues Paper published	20 May 2019
Submissions due on Issues Paper	24 June 2019
Draft Report published	22 July 2019
Submissions due on Draft Report	5 August 2019
Final Report published	16 September 2019

Prior to the submissions due date, stakeholders can request a meeting with AEMO to discuss the issues and proposed changes raised in this Issues Paper.

Co-consultation on AEMO's metering procedures

AEMO notes that changes to its metering procedures need to be consulted on in 2019 for a range of issues and activities in addition to Five Minute Settlement (5MS) and Global Settlement (GS). To streamline these procedure consultations, AEMO is conducting this Metering ICF Package as a "co-consultation" in tandem with the 5MS/GS metering procedure consultation. The co-consultation will consider the procedural impacts associated with the implementation of:

- Items discussed in this issues paper, namely:
 - Changes to the metering procedures identified and progressed through the AEMO-convened Electricity Retail Consultative Forum (ERCF) and Electricity Retail Metrology Consultative Forum (ERMCF).
 - Updates to various Metering procedures to align the procedures with changed rule references.
- Items discussed in a separate issues paper associated with:
 - Implementation of the GS Rule and residual aspects of the 5MS Rule
 - Changes to the delivery of metering data to AEMO.

This approach aligns the consultation periods for both metering procedures consultations, allowing stakeholders to consider these matters as a whole in a more efficient and effective manner. However, as the proposed ERCF and ERMCF changes are intended to take effect significantly earlier than the 5MS and GS changes, the proposed amendments have been published in separate sets of draft procedures for each consultation.



2. BACKGROUND

2.1 NER requirements

AEMO is responsible for the establishment and maintenance of metering procedures specified in Chapter 7 except for procedures established and maintained under Rule 7.17.

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

2.2 Context for this consultation

A number of changes to the NER have occurred in recent years, including the National Electricity Amendment (Metering Installation Timeframes) Rule 2018 No. 15, requiring changes to the clause numbers referenced in AEMO's Retail Electricity Market Procedures. In addition, AEMO has been consulting and intends to continue to consult through the Electricity Retail Consultative Forum (ERCF) and Electricity Retail Metrology Consultative Forum (ERMCF) on AEMO's Retail Electricity Market Procedures.

These Consultative Forums allow interested parties to raise issues and proposed changes to AEMO's Retail Electricity Market Procedures. Over the course of 2019, a number of issues have been raised by both industry proponents and AEMO (Table 1). Proposed changes have been reviewed by the Consultative Forums (ERCF and ERMCF).

Details on forums and groups specific to NEM Electricity Retail are available on AEMO's website: <http://www.aemo.com.au/Stakeholder-Consultation/Industry-forums-and-working-groups>.

Table 1 Proposed changes

ID	Subject	Document changing
ICF_007	Updating MSATS about remote de-energisation and remote re-energisation	MSATS Procedures: CATS
ICF_008	Define timeframes for updating datastreams in MSATS	MSATS Procedures: CATS
ICF_011	Clarifying the LNSP's obligations in relation to creating Embedded Network Codes	MSATS Procedures: CATS
ICF_M002	CT and VT Standards to include IEC61869	Metrology Procedure: Part A
ICF_M003	Linear interpolation substitution type for accumulation metering installations	Metrology Procedure: Part B
ICF_M004	Clarifying communication for identification of incorrect NMI and metering installation	MSATS Procedures: CATS
ICF_M005	Delivery of metering data while the NMI status is not Active	Service Level Procedure Meter Data Provider Services
ICF_M007	Verification of Metering Data for whole current Small Customer Metering Installations, Type 4A, 5, 6 and 7 Metering Installations	Metrology Procedure: Part A

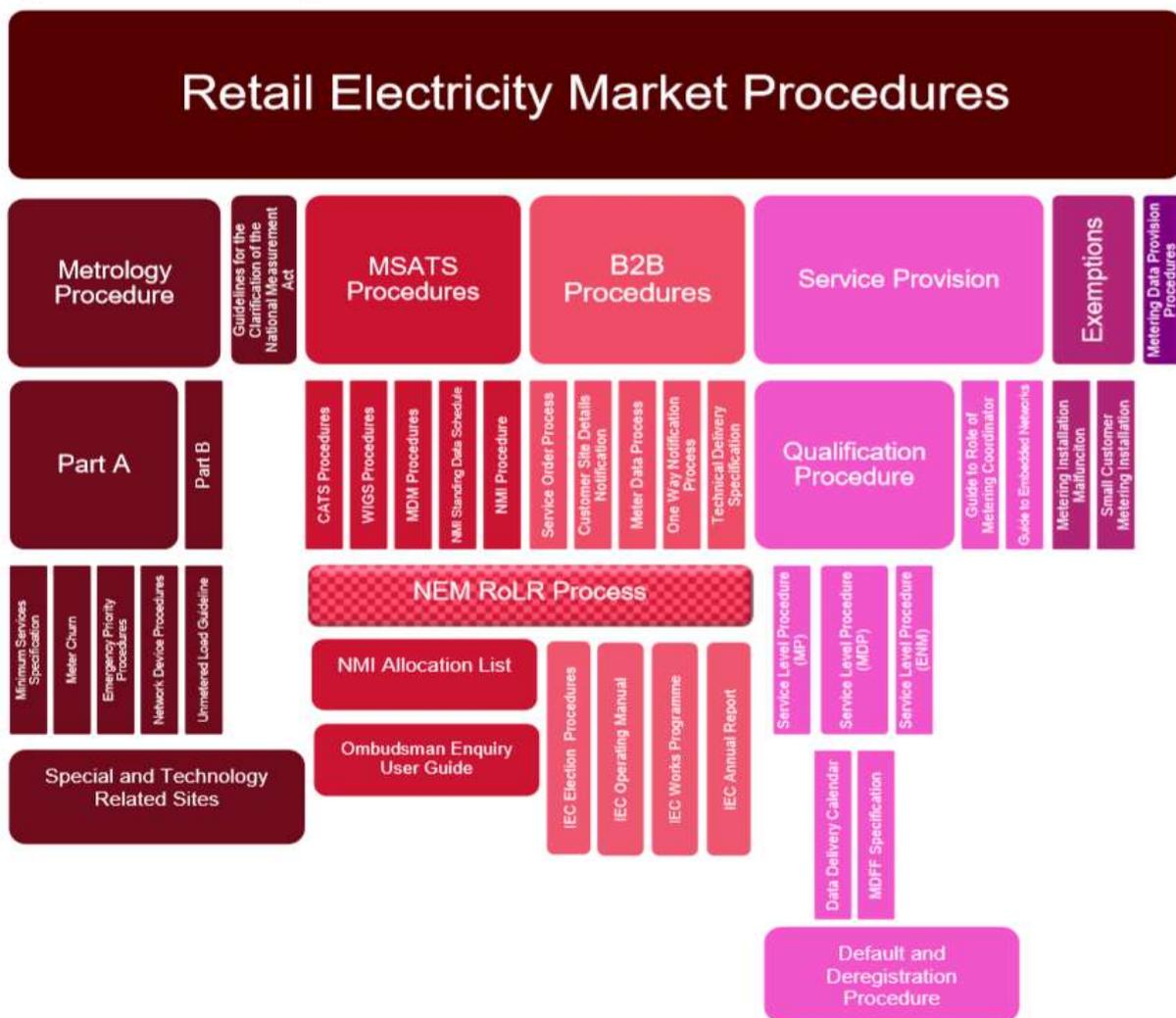
ID	Subject	Document changing
ICF_M008	Clarifying ENM’s obligations with respect to DLFs and Network Tariff Codes and that the EN for which the ENM has been appointed has an exemption by the AER	Service Level Procedure Embedded Network Manager

2.2.1 Structure of AEMO’s Retail Electricity Market Procedures

AEMO’s Retail Electricity Market Procedures comprise several procedures that govern the operation of the retail market.

Figure 2 depicts how the Retail Electricity Market Procedures fit together.

Figure 2 Retail Electricity Market Procedures





3. CHANGE PROPOSALS

Details of the change proposals are provided in the following sections.

3.1.1 Updating MSATS about remote de-energisation and remote re-energisation

The MSATS Procedure requires the MP to update MSATS when a meter is remotely de-energised and remotely re-energised (clause 2.5.h). However, it does not define what date to use when updating MSATS. There is a risk that MPs may apply different logic to determine the date to use when updating MSATS which will lead to confusion within the market.

The proposed amendment defines the date to be applied to remote de-energisation as the 'day after' de-energisation, in line with clause 2.3.(h) for physical de-energisation of an interval meter by an LNSP, and the date for remote re-energisation as the 'day of' the re-energisation, in line with clause 2.3.(i) for physical re-energisation of an interval meter by an LNSP.

3.1.2 Define timeframes for updating datastreams in MSATS

Clause 2.4.1.a.iv of the MDP SLP states "Each MDP - Category D must manage the registration of connection point datastreams in accordance with the timeframes specified in the MSATS Procedures".

However, clause 2.4.g of the MSATS CATS Procedure states "The New MDP must configure the datastream as 'A' (Active) or 'I' (Inactive) in accordance with the Service Level Procedure (MDP)".

Each document references the other for the timeframe but neither specifies the timeframe.

The proposed change defines the timeframe for updating datastreams in the MSATS Procedure CATS as two business days.

3.1.3 Clarifying the LNSP's obligations in relation to creating Embedded Network Codes

The MSATS CATS Procedure current wording of clauses 4.18 (b), (c) & (d) have the potential to be incorrectly interpreted and lack obligation timeframes.

The proposed amendment clarifies the sections on Embedded Network Codes and Rules in the MSATS CATS Procedure and defines the timeframes for provision of various Embedded Network details.

3.1.4 CT and VT Standards to include IEC61869

The Metrology Procedures require CTs and VTs to meet the relevant requirements of AS60044, clause 3.1(b), (c), and that they must comply with current Australian Standards, clause 3.1(d).

All metering CTs and VTs are now manufactured overseas, and as such are usually specified and tested to IEC61869. This replaced IEC60044 many years ago and is considered the international industry standard.

AS60044 and IEC61869 have been compared and an engineering report produced showing no material differences between these standards.

The proposed change updates the sections in the Metrology Procedure Part A to include the relevant parts of the IEC61869 that relate to CTs and VTs.



3.1.5 Linear interpolation substitution type for accumulation metering installations

When a validated actual read for an accumulation meter has a reading that is lower than the previous substituted read, then the substituted read can either be deleted or re-substituted.

If re-substituted, using method type 61 or 62 would not be suitable because that causes the same issue. Sometimes using another method type like 63 or 65 may be suitable but sometimes that still provides a read that is still higher than the latest validated actual read and therefore it is also not suitable.

Another method that would always be suitable for the above scenario is the linear interpolation method whereby the reading is calculated using the ADL between two validated meter readings and applying this ADL pro-rated to the number of days for the substituted read.

This method is currently not available as a standard substitution method, therefore it can only be used if reasonable endeavours to form an agreement are made with impacted participants.

The proposed change updates the section in the Metrology Procedure Part B to include a new substitution type 69 using the linear interpolation methodology.

3.1.6 Clarifying communication for identification of incorrect NMI and metering installation

It is not uncommon for metering installations to be linked to the incorrect NMI. This could be the result of human error when commissioning the meter or where a landlord renumbers premises without notifying a market participant. This type of issue is usually identified through customer complaints of high bills or no supply, or by a field technician.

The correction required can be complex and the error could go back several years, and therefore requires good communication and coordination between impacted market participants and impacted end use customers.

There have been instances where this type of issue was identified and corrected by the MC/MP/MDP with little or no communication and coordination. This resulted in poor outcomes for the end use customer due to the confusion it caused and extra work on impacted market participants.

The proposed change updates a section in the MSATS CATS Procedure to include upfront communication when an instance is identified of a metering installation that is not measuring the energy for the connection point it should be measuring.

3.1.7 Delivery of metering data while the NMI status is not Active

Clause 3.12.2 of the SLP MDP places an obligation on the MDP to deliver metering data within 2 business days of the Actual Meter Readings being received into the metering data services database or when the metering data is substituted or estimated. Note that the SLA for delivery of metering data to market participants is not dependent on NMI status or datastream status. However, some MDPs have configured their system to only deliver metering data when the NMI status is active which causes delays in the delivery of metering data and communicating the existence of illegal reconnections.

This issue was raised in October 2013 at the MDP Working Group. AEMO noted at the time that clause 6.11 of the SLP (as at October 2013) required MDPs to deliver data within 2 business days, without stipulating whether the NMI was active or inactive. If metering data has passed validation then it must be delivered to AEMO and participants. AEMO therefore considered that if the MDP receives data from the meter and that data passes validation then the MDP must activate the datastreams and provide data to AEMO and participants.



At the time AEMO decided not to update the MDP SLP as it considered the wording of the SLP along with the above clarification was sufficient. It has recently been identified that differing interpretations remain about when data should be delivered have been in use and therefore an amendment is desirable.

The proposed change adds clarification to the MDP SLP on when data should be delivered.

3.1.8 Verification of Metering Data for whole current Small Customer Metering Installations, Type 4A, 5, 6 and 7 Metering Installations

The Metrology Procedures Part A requires updating to provide clarity to MCs on what they need to do for meter data verification. The current clause was open to interpretation.

The proposed amendment clarifies the sections in the Metrology Procedures Part A for meter data verification.

3.1.9 Clarifying ENM's obligations with respect to DLFs, Network Tariff Codes and EN exemption

There is currently no process to confirm that when an embedded network is created in MSATS, it is an embedded network that has the benefit of an Exemption by the AER from the requirement to register under Chapter 2 of the NER.

The current wording does not accurately reflect the process required to create a site specific DLF code in MSATS. The obligation to develop a site-specific code is incorrectly placed on the EENSP who has no direct contact with AEMO under the Rules.

It is not currently clear in the procedure how the ENM can ensure that the network tariff code allocated for a child connection point is correct.

The proposed change clarifies the sections in the ENM SLP with respect to DLFs and Network Tariff Codes and confirms that the EN for which the ENM has been appointed has the benefit of an exemption by the AER.

Questions

- Are there better options to accommodate the change proposals, that better achieve the required objectives? What are the pros and cons of these options? How would they be implemented?
- What are the main challenges in adopting these proposed changes? How should these challenges be addressed?



4. DRAFTING FOR PROPOSED CHANGES

To help stakeholders and other interested parties respond to this Issues Paper, AEMO has published a draft of the procedures included in this consultation incorporating the changes proposed by proponents and AEMO. Clean and change-marked versions are available at: <http://aemo.com.au/Stakeholder-Consultation>.

Procedures included in this consultation are:

- MSATS Procedures: CATS
- MSATS Procedures: WIGS
- Metrology Procedure: Part A
- Metrology Procedure: Part B
- Service Level Procedure Meter Data Provider Services
- Service Level Procedure Meter Provider Services
- Service Level Procedure Embedded Network Manager Services
- Exemption Procedure Meter Installation Malfunctions

These procedures, and associated changes, are described in more detail in Section 5 of this document.



5. METERING PROCEDURES

This section provides further information regarding the changes proposed for each procedure under consultation.

5.1 MSATS Procedures: CATS

The MSATS Procedures are made in accordance with clause 7.16.2 of the NER and are published in two parts, namely:

- MSATS Procedures: Consumer Administration and Transfer Solution (CATS) Procedure Principles and Obligation.
- MSATS Procedures: Procedure for the Management of Wholesale, Interconnector, Generator and Sample (WIGS) NMIS.

The CATS Procedures:

- Facilitate and support an efficient process for the:
 - provision and maintenance of CATS Standing Data;
 - discovery of approved NMI Standing Data;
 - transfer of End Users between retailers;
 - registration of metering installations; and
 - settlements and the administration of NMIs.
- Define the roles and obligations of Participants and AEMO.

At a high level, the proposed changes to the MSATS CATS Procedure are as follows:

Section	Description
2.1.(l)	New section added to clarify the communication of the identification of incorrect NMI
2.4.(c)	Updated to define timeframes for updating datastreams in MSATS
2.4.(d)	Updated to define timeframes for updating datastreams in MSATS
2.4.(e)	Updated to define timeframes for updating datastreams in MSATS
2.4.(f)	Updated to define timeframes for updating datastreams in MSATS
2.4.(h)	Updated to define timeframes for updating datastreams in MSATS
2.5.(a)	New section added to define the dates MPs must use when updating MSATS about remote de-energisations
2.5.(b)	New section added to define the dates MPs must use when updating MSATS about remote re-energisations
4.18	Updated to clarify the LNSP's obligations in relation to creating Embedded Network Codes and ENM's obligations in relation to application of the Embedded Network Code and data provided to AEMO upon appointment.



5.2 MSATS Procedures: WIGS

The MSATS WIGS Procedures apply to wholesale, interconnector and generation connection points and sample data used in settlements.

There are no substantive changes to this procedure. Minor updates are proposed to align version numbering with MSATS CATS Procedures.

5.3 Metrology Procedures: Part A

The Metrology Procedure is made in accordance with clauses 7.16.3, 7.16.4 and 7.16.5 of the NER and it is published in two parts, namely:

- Metrology Procedure: Part A - National Electricity Market; and
- Metrology Procedure: Part B - Metering Data Validation, Substitution and Estimation Procedure.

Clause 7.16.3 prescribes the mandatory content, whereas clause 7.16.5 details additional matters that may be addressed in the metrology procedure. Clause 7.16.4 details the process by which AEMO may include jurisdictional metrology material in the metrology procedure, which only applies to type 5, 6 and 7 metering installations.

Metrology Procedure: Part A includes:

- Requirements for the provision, installation and maintenance of metering installations
- Obligations on various market participants, including: Metering Coordinators, Financially Responsible Market Participants and Local Network Service Providers
- Responsibilities for metering data services
- Minimum services specification procedures
- Meter churn procedures
- Network devices procedures
- Emergency priority procedures

At a high level, the proposed changes to this procedure are as follows:

Section	Description
3.1.(a)	Update to remove the word 'relevant'
3.1.(b)	Update to remove the word 'relevant'; add requirements of AS60044.3 or IEC61869.1 and IEC61869.2; and detail what each topic the part of the standard covers
3.1.(c)	Update to remove the word 'relevant'; add requirements of IEC61869.1 and IEC61869.3; and detail what each topic the part of the standard covers
3.1.(d)	Update to include International Standards covered in 3.1.(b) and 3.1.(c).
12.5.(a)	Removal of obsolete standard AS2490
12.5.(b)	New section added to detail Sample Test Plan settings
12.5.(c)	New section added to specify when a test sample is deemed to have passes the verification test



Section	Description
12.5.(d)	New section added to specify when the steps to be followed after each round of verification
12.5.(e)	Update to specify that verification tests must be conducted at least once every 12 months

5.4 Metrology Procedures: Part B

Metrology Procedure: Part B includes:

- The validation and substitution of metering data
- The estimation of metering data
- The method by which accumulated metering data is converted by AEMO into trading interval metering data
- Method by which calculated metering data is produced for unmetered market loads
- Requirements regarding sample meters for controlled loads.

At a high level, the proposed changes to this procedure are as follows:

Section	Description
2.6	Update to include additional substitution type 69
5.3.9	Addition of substitution type 69: Linear Interpolation

5.5 Service Level Procedure Meter Data Provider Services

The Service Level Procedure (MDP) details the obligations, technical requirements, measurement processes and performance requirements to be met by MDPs in the provision of metering data services for all metering installation types and the maintenance of a metering data services database.

At a high level, the proposed changes to this procedure are as follows:

Section	Description
2.4.1.(ix)	New section added to define an obligation to activate datastreams when energy is recorded from a metering installation while the NMI status is not Active
2.4.1.(x)	New section added to define an obligation to deliver validated metering data to market participants when datastreams are active
4.2.(g)	Amend outdated rule reference
6.4.1.(c)	Amend outdated rule reference
7.3.(b)	Amend outdated rule reference



5.6 Service Level Procedure Meter Provider Services

The Service Level Procedure (MP) details the obligations, technical requirements, measurement processes and performance requirements to be met by MPs in the provision, installation and maintenance of metering installations.

At a high level, the proposed changes to this procedure are as follows:

Section	Description
5.2.(a)	Updated to incorporate additional clause reference for timeframes for metering installation malfunction identification and rectification.
4.2.(a)(iii)	Amend outdated rule reference

5.7 Service Level Procedure Embedded Network Manager

The Service Level Procedure (ENM) is published under clause 7.16.6A of the NER and it details the obligations, technical requirements and performance requirements to be met by ENMs in the provision of embedded network management services.

At a high level, the proposed changes to this procedure are as follows:

Section	Description
2.1.2.(d)	New section added to define an obligation that the EN for which the ENM has been appointed has an Exemption by the AER.
4.2.1.	Updated to clarify ENM's obligations with respect to DLFs.
4.2.2.	Updated to clarify ENM's obligations with respect to DLFs.
4.3.3.(a)	Updated to clarify ENM's obligations with respect to Network Tariff Codes.

5.8 Exemption Procedure Meter Installation Malfunctions

AEMO is required to publish this procedure under clause 7.8.10 of the NER. The procedure documents the process an MC must follow when seeking exemption from the requirement to repair a metering installation malfunction within the timeframe imposed by the NER.

At a high level, the proposed changes to this procedure are as follows:

Section	Description
1.1.	Updated to incorporate additional clause reference for timeframes for metering installation malfunction identification and rectification.
2.2.	Updated to incorporate additional clause reference for timeframes for metering installation malfunction identification and rectification.
Appendix A	Updated to incorporate additional clause reference for timeframes for metering installation malfunction identification and rectification.



Section	Description
Appendix B	Updated to incorporate additional clause reference for timeframes for metering installation malfunction identification and rectification.



6. SUMMARY OF MATTERS FOR CONSULTATION

In summary, AEMO seeks comment and feedback on the changes to the NER subsequently requiring changes to AEMO's Retail Electricity Market Procedures and the following proposed changes:

ID	Subject	Document changing
ICF_007	Updating MSATS about remote de-energisation and remote re-energisation	MSATS Procedures: CATS
ICF_008	Define timeframes for updating datastreams in MSATS	MSATS Procedures: CATS
ICF_011	Clarifying the LNSP's obligations in relation to creating Embedded Network Codes	MSATS Procedures: CATS
ICF_M002	CT and VT Standards to include IEC61869	Metrology Procedure: Part A
ICF_M003	Linear interpolation substitution type for accumulation metering installations	Metrology Procedure: Part B
ICF_M004	Clarifying communication for identification of incorrect NMI and metering installation	MSATS Procedures: CATS
ICF_M005	Delivery of metering data while the NMI status is not Active	Service Level Procedure Meter Data Provider Services
ICF_M007	Verification of Metering Data for whole current Small Customer Metering Installations, Type 4A, 5, 6 and 7 Metering Installations	Metrology Procedure: Part A
ICF_M008	Clarifying ENM's obligations with respect to DLFs and Network Tariff Codes and that the EN for which the ENM has been appointed has an exemption by the AER	Service Level Procedure Embedded Network Manager

Submissions on these and any other matter relating to the proposal discussed in this Issues Paper must be made in accordance with the Notice of First Stage of Consultation published with this paper by 5.00 pm (Melbourne time) on 24 June 2019.



APPENDIX A - GLOSSARY

Term or acronym	Meaning
AER	Australian Energy Regulator
CATS	Consumer Administration and Transfer Solution, a part of MSATS.
CT	Current Transformer
DLF	Distribution Loss Factor
EN	Embedded Network
ENM	Embedded Network Manager
LNSP	Local Network Service Provider
MC	Metering Coordinator
MDP	Metering Data Provider
MP	Meter Provider
MSATS	Market Settlements and Transfer Solution
NMI	National Metering Identifier
NER	The National Electricity Rules made under Part 7 of the National Electricity Law
SLP	Service Level Procedure
VT	Voltage Transformer
WIGS	Wholesale, Interconnector, Generator and Sample