

# MSATS STANDING DATA REVIEW

FINAL REPORT AND DETERMINATION

Published: **7 September 2020**





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## EXECUTIVE SUMMARY

### Final Report

The publication of this Final Report and Determination (Final Report) marks the final stage of the Rules consultation conducted by AEMO on amendments to the Market Settlement and Transfer Solution (MSATS) as part of changes to the Standing Data of the MSATS Procedures (MSATS Standing Data) in the National Electricity Market (NEM).

AEMO's final determination is to amend the retail electricity procedures and other relevant documents in the form published with this Final Report. AEMO proposes the changes will take effect on the date nominated in each relevant document.

### Issues Paper

On 24 February 2020, AEMO published the Notice of First Stage Consultation and the Issues Paper for this MSATS Standing Data Review (MSDR). The Issues Paper detailed proposed changes to add, update or remove fields in the MSATS Procedures, in respect of data in the following categories:

- Metering Installation Information within the Metering Register Information:
  - General metering installation information.
  - Metering installation transformer information.
  - Register-level information.
  - Connection and metering point details.
  - Metering installation location information.
  - Meter read and estimation information.
  - Meter communications information.
- NMI Details within MSATS:
  - Address Structure.
  - Feeder Class.
  - Transmission Node Identifier 2 (TNI2).

The Issues Paper included information relating to a possible rule change proposal regarding National Electricity Rules (NER) Schedule 7.1. AEMO considers that this rule change would enable flexibility in relation to data requirements under the MSATS Procedures. However, AEMO noted that the information provided regarding this change does not form part of the MSDR consultation. If AEMO determines that the proposal is to be progressed, it will be the subject of consultation at the relevant time.

AEMO received 23 submissions (including two late submissions) from retailers, customer advocates, Distribution Network Service Providers (DNSPs), Meter Providers (MPs), Metering Data Providers (MDPs), ombudsmen and the Australian Competition and Consumer Commission (ACCC). Copies of all written submissions (excluding any confidential information) have been published on AEMO's website at <https://aemo.com.au/consultations/current-and-closed-consultations/msats-standing-data-review>.

### First Draft Report

Based on material provided in these submissions and its own analysis, AEMO identified 10 material issues and two new issues. These issues were addressed in the First Draft Report and Determination (First Draft Report), under the topics of:

- Meter Malfunction Exemption Details.



- Type 4A Metering Installation (MRAM) Reason.
- Metering Installation Transformer Information.
- Metering Installation Connection Configuration Details.
- Shared Fuse Details.
- Global Positioning System (GPS) Coordinates.
- Network Additional Information field.
- Whether Delivery Point Identifier (DPID) is still required if a Geocoded National Address File (G-NAF) Persistent Identifier (PID) added.
- Add G-NAF PID and add Section and Deposited Plan (DP) Number.
- Data Transition.
- Consumer Data Right (CDR).
- Network Tariff Code (NTC).

After considering the submissions and evaluating comments against the requirements of the NER and the Amending Rules, AEMO's first draft determination proposed amending various clauses in the MSATS Procedures and the Standing Data for MSATS document, as set out in the First Draft Report. The First Draft Report was published on 14 May 2020. The feedback from the first stage consultation (First Stage Consultation) indicated general agreement on various changes which AEMO proposes to MSATS Standing Data including:

- amending 12 fields;
- removing 23 fields; and
- introducing nine new fields.

AEMO received 18 submissions in response to the First Draft Report. Copies of all written submissions (excluding any confidential information) have been published on AEMO's website at <https://aemo.com.au/consultations/current-and-closed-consultations/msats-standing-data-review>.

### **Second Draft Report**

Stakeholders responded to questions posed by AEMO in the draft determination regarding the material issues above and participant preferences regarding implementation of proposed changes. Based on these submissions and its own analysis, AEMO identified three material issues. These issues were addressed in the Second Draft Report and Determination (Second Draft Report), under the topics of:

- Shared Fuse Details.
- GPS Coordinates.
- Data Transition.

After considering the submissions and evaluating comments against the requirements of the NER and the Amending Rules, AEMO's second draft determination – in the Second Draft Report, published on 3 July 2020 – proposed amending various clauses in the:

- MSATS Procedures.
- Metrology Procedure Part A.
- Retail Electricity Market Procedures – Glossary and Framework.
- Exemption Procedure – Meter Installation Malfunctions.



- Standing Data for MSATS document.

AEMO conducted a workshop on 17 July 2020 to discuss the transition and provision of the data required for the new, amended and removed fields. The findings from this workshop are available on AEMO's website at <https://aemo.com.au/consultations/current-and-closed-consultations/msats-standing-data-review>.

AEMO received 18 submissions in response to the Second Draft Report and also held two meetings on request with individual participants. Copies of all written submissions (excluding any confidential information) have been published on AEMO's website at <https://aemo.com.au/consultations/current-and-closed-consultations/msats-standing-data-review>. Based on these submissions and its own analysis, AEMO identified four material issues. These are discussed later in this Final Report.



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## 1. STAKEHOLDER CONSULTATION PROCESS

AEMO conducted this consultation on the changes proposed to the Standing Data of the MSATS Procedures (MSATS Standing Data) in accordance with the Rules consultation requirements, as detailed in clause 8.9 of the NER.

Previously, AEMO added a third stage of the consultation process (Third Stage Consultation), publishing a Second Draft Report on 3 July 2020.

The Third Stage Consultation was required for AEMO to consider and evaluate the complex issues arising from stakeholder submissions, including matters relating to data transition, as well as the interdependencies among various rule and procedural changes.

Accordingly, the consultation stages – along with their associated deliverables – have been as follows.

Deliverable	Indicative date
First Stage Consultation	
Issues Paper published	24 February 2020
Submissions closed	31 March 2020
Second Stage Consultation	
First Draft Report published	14 May 2020
Submissions closed	5 June 2020
Third Stage Consultation	
Second Draft Report published	3 July 2020
IT Data Transition Workshop conducted	17 July 2020
Submissions closed	27 July 2020
Final Stage	
Final Report and Determination published	7 September 2020

The publication of this Final Report marks the conclusion of the consultation. A glossary of terms used in this Final Report is provided at Appendix A.



## 2. BACKGROUND

### 2.1 NER Requirements

Clause 7.16.2 of the NER requires AEMO to establish, maintain, and publish the MSATS Procedures. Clause 7.16.1(b) requires AEMO to maintain the MSATS Procedures in accordance with the Rules consultation procedures.

### 2.2 Context for this Consultation

In 2017, the Information Exchange Committee (IEC) requested AEMO to conduct this MSATS Standing Data Review (MSDR) as part of the competition in metering procedural changes. In November 2018, AEMO commenced industry consultation with an external workshop to determine the MSDR's scope. As part of this workshop, AEMO received a 'wish list' of proposed changes from a number of participants.

In early 2019, AEMO placed the MSDR on hold due to other higher priority projects and processes taking precedence. Subsequently, AEMO decided to resume the MSDR, in light of additional consideration of future use and users of MSATS Standing Data resulting from strategic decisions by the Council of Australian Government (COAG)<sup>1</sup> and the Australian Energy Market Commission (AEMC).

Various NEM reform and rule change projects could impact the implementation of the MSDR. These projects include the following:

- Australian Government's legislative framework relating to the Consumer Data Right (CDR) as it applies to the energy sector.
- Competition for Customers in Embedded Networks, which is currently referred to the (previously named) COAG Energy Council Standing Committee of Officials.
- Stand-Alone Power Systems.

The naming of any proposed new fields for MSATS Standing Data will be subject to the relevant submission, change, and approval processes of the aseXML Standards Working Group (ASWG).

### 2.3 MSATS Standing Data Review Guiding Principles

AEMO developed and socialised a set of guiding principles for the MSDR to ensure the data is complete, accurate, and useful for participants and consumers (MSDR Guiding Principles)<sup>2</sup>.

The MSDR Guiding Principles are the following:

- Efficient:
  - To have standing data available to support the efficient operations of the electricity market.
  - Changes do not increase barriers to market entry or competition.
- Flexible and future focussed:
  - Design flexibility so that standing data supports the current and future electricity market.
  - All data must be complete, accurate, and useful.
- Improve retail outcomes for customers:

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<sup>1</sup> On 29 May 2020, the Prime Minister announced that the Council of Australian Government (COAG) would cease and a new National Federation Reform Council (NFRC) would be formed.

<sup>2</sup> The MSDR Guiding Principles were socialised in meetings with retailers, DNSPs and competitive metering companies in December 2019 and in the MSDR pre-consultation workshop held in Melbourne in February 2020.





- Provide data supporting the CDR legislative reform.
  - Provide data supporting wholesale demand response participants.
- Facilitate new market structures and roles:
  - Facilitate existing roles and reforms such as competitive metering.
  - Enable future market roles and structures such as embedded network reforms.
- Transparency of metering compliance:
  - Provide data for transparency of compliance for market participants and maintenance for metering installations.
  - Appropriate and timely data for maintenance of metering installations.
- Shared understanding of connection point information:
  - Provide appropriate market participants and other authorised parties with a consistent, full, and shared understanding of each connection point.

## 2.4 First Stage Consultation

On 24 February 2020, AEMO issued the Notice of First Stage Consultation (First Stage Consultation) and published the Issues Paper. This information is available on [AEMO's website](#).

The Issues Paper detailed proposed changes to the MSATS Standing Data to add, update or remove fields in the MSATS Procedures, in respect of data in the following categories:

- Metering Installation Information within the Metering Register Information:
  - General metering installation information.
  - Metering installation transformer information.
  - Register-level information.
  - Connection and metering point details.
  - Metering installation location information.
  - Meter read and estimation information.
  - Meter communications information.
- NMI Details within MSATS:
  - Address Structure.
  - Feeder Class.
  - Transmission Node Identifier 2 (TNI2).

The Issues Paper included information relating to a possible rule change proposal regarding NER Schedule 7.1. AEMO considers that this rule change would enable flexibility in relation to data requirements under the MSATS Procedures. However, AEMO noted that the information provided regarding the possible rule change does not form part of the MSDR consultation. If AEMO determines that the rule change proposal is to be progressed – most likely prior to the AEMC's review of Competition in Metering, which is due to commence in late 2020 – it will be the subject of consultation at the relevant time.

AEMO received 23 submissions in the First Stage Consultation, two of which were submitted late.



## 2.5 Second Stage Consultation

On 14 May 2020, AEMO issued the Notice of Second Stage Consultation (Second Stage Consultation) and published the First Draft Report and Determination (First Draft Report). This information is available on [AEMO's website](#).

The First Draft Report included details on the following key material issues:

- Meter Malfunction Exemption Details.
- Type 4A Metering Installation (MRAM) Reason.
- Metering Installation Transformer Information.
- Metering Installation Connection Configuration Details.
- Shared Fuse Details.
- Global Positioning System (GPS) Coordinates.
- Network Additional Information field.
- Whether Delivery Point Identifier (DPID) is still required if Geocoded National Address File (G-NAF) Persistent Identifier (PID) added.
- The addition of G-NAF PID and/or add Section and Deposited Plan (DP) Number.
- Data Transition.
- Consumer Data Right (CDR).
- Network Tariff Code (NTC).

AEMO received 18 submissions in response to the Second Stage Consultation.

Copies of all written submissions (excluding any confidential information) have been published on AEMO's website at: <https://aemo.com.au/consultations/current-and-closed-consultations/msats-standing-data-review>.

## 2.6 Third Stage Consultation

On 3 July 2020, AEMO issued the Notice of Third Stage Consultation (Third Stage Consultation) and published the Second Draft Report and Determination (Second Draft Report). This information is available on [AEMO's website](#).

The Second Draft Report included further details on the material issues raised in the First Draft Report. Three broad issues were detailed in the Second Draft Report:

- Shared Fuse Details.
- GPS Coordinates.
- Data Transition.

AEMO received 18 submissions in response to the Third Stage Consultation, one of which was submitted late. AEMO also held two meetings with Endeavour Energy on 16 July 2020 and Plus ES on 20 July 2020.

Copies of all written submissions (excluding any confidential information) have been published on AEMO's website at: <https://aemo.com.au/consultations/current-and-closed-consultations/msats-standing-data-review>.

On 17 July 2020, between the publication of the Second Draft and Final Report, AEMO conducted a data transition workshop in order to outwork the specific requirements of each element of the data transition. The findings from this workshop are detailed in this Final Report.



### 3. SUMMARY OF MATERIAL ISSUES

The key material issues AEMO identified during its review of the submissions made during Third Stage Consultation are as follows:

No.	Issue	Raised by
1.	<u>Shared Fuse Details</u>	Multiple Respondents
2.	<u>GPS Coordinates</u>	Multiple Respondents
3.	<u>Data Transition</u>	Multiple Respondents
4.	<u>Metering Installation Transformer Information</u>	Multiple Respondents

Section 4 of this Final Report provides AEMO's assessments and decisions in respect of these issues.

## 4. DISCUSSION OF MATERIAL ISSUES

AEMO has sought to consistently address each of these material issues by providing:

- A summary of the issues in respect of respondent submissions.
- AEMO’s assessment of the issues.
- AEMO’s conclusions, including proposals as to addressing the issues in the future (including, in some cases, that AEMO proposes not to make changes).

### 4.1 Shared Fuse Details

#### 4.1.1 Issue summary and submissions

During the Second Stage Consultation, AEMO proposed:

- a Shared Isolation Point Flag, to be populated by the LNSP with ‘Yes’, ‘No’, ‘Isolated’ and ‘Unknown’ as allowable values; and
- based on AEMC Rule Change ERC0275 – Introduction of metering coordinator planned interruptions, Rule determination, 21 May 2020, in respect of National Electricity Amendment (Introduction of metering coordinator planned interruptions) Rule 2020 No 7 (AEMC Rule Change ERC0275) – the inclusion of:
  - new section 14 on Shared Fuse Arrangements in the Metrology Procedure: Part A, specifying the process required by the NER;
  - definition of Shared Fuse Arrangement in the Retail Electricity Market Procedures – Glossary and Framework;
  - update to the NER references in the Exemption Procedure – Meter Installation Malfunctions;
  - updates to the obligations for the Financially Responsible Market Participant (FRMP), MC and LNSP and to the NMI Discovery Shared Isolation Point Flag description in the MSATS Procedures: CATS Procedure and MSATS Procedures: WIGS Procedure, to reflect the obligations in the Metrology Procedure: Part A; and
  - allowable value of ‘I’ for ‘Isolated’ in the description of the Shared Isolation Point Flag in the Standing Data for MSATS document.

AEMO received the following additional feedback in the Third Stage Consultation:

- *Changes to the MSATS Procedures: CATS Procedure*

Consulted person	Feedback summary
AGL, EnergyAustralia, Plus ES, Red and Lumo, Vector Metering	Questioned need for role obligations in the MSATS Procedures: CATS Procedure, which duplicate Metrology Procedure: Part A.
AGL	Queried the proposed timings to notify parties if two business days is the timeframe, since the update of Shared Isolation Point Flag could occur multiple times for one meter exchange process, which takes longer for Shared Fuse Arrangements.



Consulted person	Feedback summary
AGL, IntelliHub	Identified that labelling for clause 2.6(l) not showing.
Alinta Energy, Aurora Energy	Agreed with the proposed changes.
Ausgrid	Indicated clause 2.3(t) contradicts Metrology Procedure: Part A Drawing 3.
Ausgrid	Suggested the Shared Isolation Point Flag is not needed for CR2500/2501, as new NMLs will not have Shared Fuse Arrangements.
AusNet Services	Requested the Shared Isolation Point Flag should be set as 'Unknown' by default and pre-populated by AEMO initially.
CitiPower Powercor, Origin Energy, TasNetworks, United Energy	Noted two business days is insufficient for FRMP to advise LNSP. Suggested five business days is more appropriate.
CitiPower Powercor, United Energy	Disagreed with adding 'I' (Isolated), as it adds complexity. Suggested only using 'Y' (Yes) and 'N' (No).
EnergyAustralia	Supported changes other than the duplication of role obligations with Metrology Procedure: Part A (as noted above).
Energy Queensland	Noted there is no 'how' identified for advising the LNSP of shared fusing. Suggested using B2B communications.
IntelliHub	Assumed communication of shared fusing would be via MSATS but noted there was no mechanism proposed. Queried whether AEMO expects industry to define a communication, if not via MSATS. Recommended not adding any of the process, if not defined.
IntelliHub, Vector Metering	Recommended awareness of shared fusing would be via MPB (rather than MC). Accordingly, suggested adding an obligation for MPB to notify LNSP.
Origin Energy	Questioned what changes can trigger the Shared Isolation Point Flag to change. Recommended once all sites are 'I – independently isolated', then it can all change to 'N' (No Shared Fuse).
Powermetric	Indicated concern about inefficient communications. Suggested MPB to FRMP to LNSP.
Red and Lumo	Objected to timeframe for FRMP to advise LNSP.
Vector Metering	Noted two business days is insufficient for FRMP to advise LNSP.
Vector Metering	Recommended values of 'S' (Shared Fuse), 'I' (Isolated), 'U' (Unknown), as no difference between 'I' (Isolated) and 'N' (No Shared Fuse).



- *Changes to the MSATS Procedures: WIGS Procedure*

Ausgrid suggested that the Shared Isolation Point Flag is not relevant for MSATS Procedures: WIGS Procedure.

- *Changes to the Standing Data for MSATS document*

Consulted person	Feedback summary
AGL	Indicated that Shared Isolation Point Flag character length of 10 seems excessive for a one-character flag.  Suggested that two characters would be adequate.
CitiPower Powercor, United Energy	Disagreed with adding 'I' (Isolated) as it adds complexity.  Suggested using 'Y' (Yes) and 'N' (No) only.
Endeavour Energy	Indicated that for the Shared Point Isolation Flag, the browser format of CHAR(10) should be VARCHAR2(10).
IntelliHub	Noted the field 'SharedIsolationPointFlag' is an enumerated list of 4x 1 character values.  Suggested Char(10) seems excessive.  Recommended Char(1) is sufficient, or Char(2) to cater for future expansion.
Origin Energy	Sought clarification on how the LNSP will anticipate the identification and management of sites that are 'I'.  Queried what the process will be, as this is a mandatory field.  Queried how and when will this be moved to 'I'.
SA Power Networks	Indicated unclear as to the value of 'I' (Isolated).
Vector Metering	Recommended values of 'S' (Shared Fuse), 'I' (Isolated), U' (Unknown), as no difference between 'I' (Isolated) and 'N' (No Shared Fuse).
Vector Metering	Suggested labelling the field as 'Isolation Point Flag'.

- *Changes to the Metrology Procedure: Part A*

Consulted person	Feedback summary
AGL, EnergyAustralia, Red and Lumo,	Questioned need for role obligations in the MSATS Procedures: CATS Procedure, which duplicate Metrology Procedure: Part A.
Alinta Energy, Aurora Energy	Supported proposed changes.
Ausgrid	Indicated clause 2.3(t) contradicts Metrology Procedure: Part A Drawing 3.
Endeavour Energy	Questioned the reference to "identify" in obligation 14(a), noting the reference to 'record' in the requirement in amended NER 7.16.3(c)(7)(ii) for "Local Network Service Providers to record all connection points with shared fuse arrangements as soon as practicable after

Consulted person	Feedback summary
	becoming aware of the shared fuse arrangements” (National Electricity Amendment (Introduction of metering coordinator planned interruptions) Rule 2020 No. 7)).
Endeavour Energy	Requested an additional statement that the LNSP is not required to audit the information received from the FRMP or MC.
EnergyAustralia	Supported changes in respect of other duplication of role obligations, as between Metrology Procedure: Part A and MSATS Procedures CATS Procedure.
IntelliHub	Recommended that clause 14(b) awareness would be via MPB (rather than MC), so suggested adding an obligation for MPB to notify LNSP.
IntelliHub	Assumed communication of shared fusing would be via MSATS, but noted there was no mechanism proposed.  Queried whether AEMO expects industry to define a communication, if not via MSATS.  Recommended not adding any of the process, if not defined.
Powermetric	Concerned about inefficient communications.  Suggested MPB to FRMP to LNSP.
Powermetric	Indicated that Diagram 4 – Has zero isolation on Smart Meter (Meter 1).
SA Power Networks	Questioned the reference to ‘identify’ in obligation 14(a), noting the reference to ‘record’ in the requirement in amended NER 7.16.3(c)(7)(ii).
SA Power Networks	Requested the removal of ‘I’ (Isolated) from diagrams 2 and 3, as ‘I’ does not add value.
SA Power Networks	Recommended fixing the isolation indication on Diagram 4.
Vector Metering	Recommended values of ‘S’ (Shared Fuse), ‘I’ (Isolated), U’ (Unknown), as no difference between ‘I’ (Isolated) and ‘N’ (No Shared Fuse).
Vector Metering	Suggested that Diagram 4 is unnecessary.

- *Changes to the Exemption Procedure Meter Installation Malfunctions*

AEMO received:

- agreement on the proposed changes from Alinta Energy, Aurora Energy, Ausgrid, EnergyAustralia, and Intellihub; and
- no comment from by AGL, AusNet Services, Energy Queensland, Origin Energy, Powermetric, and Red and Lumo.

- *Changes to the Retail Electricity Market Procedures - Glossary and Framework*

Consulted person	Feedback summary
AGL	Suggested changing the Shared Fuse Arrangement definition to ‘Shared Fuse Arrangement is where multiple NMIs being supplied via a common isolation point. This is specified in detail in Metrology Procedure: Part A and is recorded via an MSATS flag.’

Consulted person	Feedback summary
Alinta Energy, Aurora Energy, Ausgrid, EnergyAustralia, Intellihub	Agreed with the proposed definition.
AusNet Services, Powermetrics, Red and Lumo	Offered no comment.
Endeavour Energy	Suggested changing the last part of definition to “Shared Fuse Arrangement is covered by the Shared Point Isolation Flag in MSATS”.
Energy Queensland, Plus ES	Suggested updating the definition to delete the reference to ‘at the meter’, such that the definition refers only to ‘at the connection point’.
Origin	Suggested changing the definition to that in the NER: “A Shared Fuse Arrangement occurs when interrupting supply to a connection point requires interrupting supply to one or more other connection point(s).”
Plus ES	Indicated that the definition should identify a Shared Fuse Arrangement, rather than the Shared Isolation Point Flag.
Vector	Suggested updating the definition to: “Shared Fuse Arrangement indicates whether a connection point can be physically deenergised without impacting supply at any other connection point.”

• *Other matters in relation to Shared Fuse Arrangements*

- Endeavour Energy reiterated its request to AEMO to reconsider AEMO’s proposal to introduce a Shared Isolation Point ID and NMI Discovery 4, noting:

“The Commission recommends that retailers access to NMI Standing Data, in particular to the current retailer (or FRMP) be reviewed, and AEMO investigate the development of a NMI Discovery Search 4 which would provide retailers with this data for the express purpose of coordinating retailer planned interruptions where there is shared fusing only.”

AEMC, Introduction of metering coordinator planned interruptions, Rule determination, 21 May 2020, page 57.

- Plus ES suggested expanding the obligations to provide an identification link between each NMI covered by a Shared Fuse Arrangement rather than a simple Shared Isolation Point Flag.

**4.1.2 AEMO’s assessment**

Based on this feedback, AEMO’s assessment is as follows:

- AEMO will include all relevant obligations into the Metrology Procedure: Part A, as specified in AEMC Rule Change ERC0275. Further, AEMO will add certain obligations to the MSATS Procedures: CATS Procedure, in the interests of clarity and completeness, as well as to complement obligations which are implemented through other Retail Electricity Procedures.
- AEMO agrees to change the notification timeframe in MSATS Procedures: CATS Procedure, from “two business days”, to “as soon as practicable but no more than five business days”.





- AEMO will fix the labelling for clause 2.6(l) to identify the clause reference.
- Shared Isolation Point Flags of 'I' do not negate the shared fusing at the network level, unless the shared fusing is broken, in which case the setting will be 'N'. The individual fusing of each NMI is required, before the LNSP can set to 'N', as per Diagram 4 in the Metrology Procedure: Part A.
- The FRMP, MC and LNSP must agree on a process for communicating the Shared Fuse Arrangement information between them. If B2B is the chosen communication method, requiring B2B changes, then this should be raised to the IEC via the change request process.
- AEMO agrees that MPBs are likely to become aware of Shared Fuse Arrangements as they attend sites. Accordingly, AEMO will amend the Metrology Procedure: Part A and the MSATS Procedures: CATS Procedure, to oblige the MPB to notify the MC and/or FRMP, when the MPB becomes aware of Shared Fuse Arrangements.
- The Shared Isolation Point Flag values define the changes in respect of the Shared Fuse Arrangements. These definitions provide details as to the nature of the changes to the connection arrangements that can be made.
- MSATS Procedures: CATS Procedure clause 2.3(r) is about the LNSP obligations to update and maintain the Shared Fuse Arrangements in MSATS, not about the notification to the LNSP. As a result, AEMO does not propose to make any changes to the proposed arrangements.
- AEMO understands that participants will know the sites for which no Shared Fuse Arrangements are in place. Accordingly, participants can set the Shared Isolation Point Flag to 'N'. Alternatively, participants can use 'U' for Unknown, if they have no information about the site. As a result, AEMO retains its position to retain the values of 'Y', 'I', 'N', and 'U'.
- AEMO believes that retaining the value of 'I' will ensure that any work on an individually isolated meter will be more efficient, than in circumstances of requiring a whole shared fuse notification process of up to 30 days.
- In AEMO's view, the default value for Shared Isolation Point Flag is not a procedural matter. However, AEMO will take the matter into consideration in the development of the transition plan. AEMO requests participants to contact AEMO, if they need help to transition data. AEMO notes that the requirements pursuant to AEMC Rule Change ERC0275 as to the communication of Shared Fuse Arrangements from FRMPs and MCs to LNSPs are to commence operation from 1 July 2021. However, AEMO's changes are to be completed by 30 March 2022. Accordingly, not all Shared Isolation Point Flags will necessarily be Unknown.
- AEMO intends to retain the current wording in line with AEMC's reference to "identify":

'The final rule also seeks to improve consumer outcomes over time by requiring AEMO to include in its metrology procedures obligations on DNSPs to record information that they become aware of regarding the location of shared fuses as a result of retailers, MCs and other relevant parties informing the DNSP of shared fusing, or as identified as a result of their own work.'<sup>3</sup>
- LNSPs can make their own choice in respect of 'auditing' and as such, AEMO will not be including a statement in the procedures. The NER does not provide head of power to make this statement.
- The LNSP will be informed by their FRMP or MC that the relevant setting is 'I', then the LNSP will update MSATS.

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<sup>3</sup> AEMC, Introduction of metering coordinator planned interruptions, Rule determination, 21 May 2020, page 17.



- AEMO will update Diagram 4 in the Metrology Procedure: Part A to show the isolation for Meter 1.
- AEMO will retain Diagram 4 in the Metrology Procedure: Part A, as it provides clarity as to the different arrangements that can exist.
- AEMO will update the definition of Shared Fuse Arrangement to:

“Shared Fuse Arrangement is where multiple NMIs are supplied via a common isolation point. This is specified in detail in Metrology Procedure: Part A and is recorded via an MSATS flag”.
- AEMO considered the creation of a NMI Discovery 4. However, the FRMP – by providing the Shared Point Isolation Flag via NMI Discovery 2 – can identify whether it needs to approach the LNSP, to identify other parties which may be affected. As such, AEMO does not see the necessity in developing any new NMI discovery.
- AEMO does not propose to include an identification link in MSATS. The LNSP has been assigned coordination ownership of this information, under AEMC Rule Change ERC0275. The identification link is part of records that LNSPs may wish to keep. MSATS only requires the identification of the arrangement for a metering installation.

### 4.1.3 AEMO’s conclusion

AEMO will:

- Require the LNSP to maintain the Shared Isolation Points Flag in MSATS, as well as to identify the process for Shared Fuse Arrangements in the Metrology Procedure: Part A, in a manner consistent with AEMC Rule Change ERC0275.
- Include the relevant obligations into the Metrology Procedure: Part A, as specified in AEMC Rule Change ERC0275. Further, AEMO will add certain obligations to the MSATS Procedures: CATS Procedure, in the interests of clarity, completeness and complementarity.
- Change the timeframe for updating the Shared Fuse Arrangements, from “2 business days”, to “as soon as practicable but no more than 5 business days”.
- Revise the Metrology Procedure: Part A and the MSATS Procedures: CATS Procedure to require the MPB to notify the MC and/or the FRMP, when the MPB becomes aware of Shared Fuse Arrangements.
- Update the definition of Shared Fuse Arrangement in the Retail Electricity Market Procedures – Glossary and Framework.

## 4.2 GPS Coordinates

### 4.2.1 Issue summary and submissions

AEMO proposed the addition of meter GPS coordinates in the pre-consultation feedback pack, in line with participant feedback from the 2018 workshop. In this feedback, participants noted that GPS coordinates would be useful in various circumstances. The addition of the field was supported by approximately half of respondents.

The feedback in the pre-consultation survey, in December 2019, indicated the potential of GPS coordinates to assist with locating difficult-to-find metering points at some premises. The industry workshop, in February 2020, highlighted the benefit in terms of supporting timely meter exchange, specifically for meters at rural premises.

Conversely, the costs associated with collecting and populating of this information may exceed the benefit for many NMIs, as was also noted in feedback. Accordingly, AEMO asked participants, in February 2020,

about the instances in which GPS coordinates would be most useful. In response, participants identified the instances of sites with rural and manually read interval meters (MRIMs), as well as interval meters.

In the Issues Paper, AEMO requested feedback regarding the addition of GPS coordinates, including in respect of: which types of locations; how to define the required locations; whether the addition should apply to all MRIMs, or all new connections; what other scenarios the addition should apply to; and how accurate the GPS coordinates would need to be.

Based on the feedback detailed in the First Stage Consultation, AEMO proposed to add the new field, as follows:

- ‘Required’ for Rural sites for a period of 12 months, after which the field becomes ‘Mandatory’;
- ‘Required’ for MRIM for a period of 12 months, after which the field becomes ‘Mandatory’;
- ‘Mandatory’ for all new connections; and
- ‘Mandatory’ for all meter exchanges and meter churns.

AEMO proposed to apply the definition of Designated Rural Post Codes, to enable a consistent application of the definition of rural, as well as to require an accuracy of five decimal places.

AEMO reviewed the mixed responses received in the Second Stage Consultation, noting:

- long-term benefits for customers of GPS coordinates for all meters across all NMLs;
- costs associated with the complexities in capturing GPS coordinates; and
- complexities in creating a clear definition of “rural” that could be uniformly applied across the NEM.

AEMO proposed to make GPS coordinates Required for all NMLs for three years (36 months) from the effective date, then Mandatory thereafter, to enable a suitable transition period for collection.

AEMO received the following additional feedback in the Third Stage Consultation:

- *Changes to the MSATS Procedures: CATS Procedure*

Consulted person	Feedback summary
AGL	Questioned why the MC has an obligation to provide GPS coordinates for CR3090/3091.
Ausgrid	Indicated, for CR 2500/2501, in NSW, that the ASP – not the LNSP – makes the connection to the network. Further, the connection is the service connection, not the metering point location. Accordingly, the LNSP cannot populate the GPS coordinates. Instead, the MP would need to populate the GPS coordinates, when installing the meter.  Indicated further that, at the time of the NMI creation and publication to MSATS as Greenfield status, the GPS coordinates are not known, as the work has not yet been conducted. Accordingly, the LNSP cannot populate the GPS coordinates at the new NMI creation stage.
Ausgrid	Indicated that, for CR3050/3051 and CR3080/3081, GPS coordinates may not be available, as a third party (eg. ASP) may have removed the metering. For example, a customer may have removed a controlled load Type 5 or 6 meter, due to it being no longer required.
Ausgrid	Supported GPS coordinates for rural sites, but not for non-rural sites, with regard to Table 16-C. Questioned the investment costs of gathering GPS coordinates versus benefits already provided by information in other addressing and location fields.



Consulted person	Feedback summary
	Suggested an alternative process, where if a MC/MP cannot locate a meter point, then a B2B meter investigation service order would be appropriate for obtaining the GPS coordinates.
AusNet Services	<p>Indicated, for CR 2500/2501, that GPS coordinates will be populated with best estimate values (site location) where the site has 'No Access'.</p> <p>Suggested that GPS coordinates for existing sites should be populated by the MC, not the LNSP, since MCs can be the contestable party, subject to more commercial pressure, therefore better assignees of the responsibility, as a matter of best regulatory practice.</p> <p>Stated that regulated businesses should not cross-subsidise contestable businesses.</p> <p>Agreed reluctantly to populating GPS coordinates for all NMIs (including existing sites), but indicated that this should be an obligation of the MC/MP, not the LNSP.</p>
Origin Energy	Questioned change from 5 decimal places to 7 decimal places for Table 16-C.
Powermetric	Questioned whether 5 decimal places would be accepted for Table 16-C.
Vector Metering	Stated that, for CR3000/3001, since a transition period exists, GPS coordinates cannot be made mandatory.

- *Changes to the MSATS Procedures: WIGS Procedure*

Consulted person	Feedback summary
Ausgrid	Indicated that GPS coordinates not relevant for MSATS Procedures: WIGS Procedure.
AusNet Services	Requested confirmation that the MPB must provide GPS coordinates of the meter/meter box, not the connection point/site established by the LNSP at time of NMI creation.
IntelliHub	Stated that, for CR 2500/2501, the LNSP may not have details or responsibility in respect of certain items (Manufacturer, Meter Model, Serial ID, GPS Coordinates, etc.), such items should be under the "may" populate heading, rather than "must".

- *Changes to the Standing Data for MSATS document*

Consulted person	Feedback summary
Ausgrid	Stated that GPS coordinates should not be required for BULK, XBOUNDARY and INTERCON.
AusNet Services	Requested clarification of the definition statement that GPS coordinates are Mandatory for "All meters where the site postcode is a "Designated regional area postcode"", given AEMO's Second Draft Report, which states that ALL NMIs must have GPS coordinates after 3 years.
CitiPower Powercor	<p>Sought clarification of the requirement to capture GPS coordinates for NCONUML and type 7 connections.</p> <p>Questioned how to provide GPS coordinates for NMIs which have a 1-to-many unmetered devices relationship.</p>

Consulted person	Feedback summary
CitiPower Powercor	Sought clarification as to why the requirement to provide GPS coordinates to 7 decimal places has changed from 5 in AEMO's First Draft Report.  Noted that 7 is unnecessary, plus that the costs would outweigh the benefits.
Endeavour Energy	Suggested that AEMO updates the Standing Data for MSATS document to reflect AEMO's Second Draft Report, which states, "AEMO will make GPS coordinates Required for all NMI's for three years (36 months) from the effective date, then Mandatory thereafter, to enable a suitable transition period for collection".
Energy Queensland	Requested confirmation to Energex and Ergon Energy in respect of the definition of interval meter where referenced in the GPS coordinate fields, specifically as to whether the concept of interval includes Streetlight and NCONUML NMI's.
Origin Energy	Requested confirmation that the GPS coordinate description is correct in outlining 7 decimal places, given that AEMO proposed 5 decimal places in the Second Draft Report.
Plus ES	Indicated that the definition was not updated to align with the Second Draft Report.  Noted the application to all NMI's, with a transition period for 36 months.  Supported the overall objective in introducing the field, as it will deliver value.  Supported the initiative for new NMI's, upon a site visit; but disagreed across all NMI's, as a costly exercise for remotely read meters which do not require a field visit.  Requested cost benefit analysis, to determine best mitigation for unlocatable meters.
Powermetric	Questioned whether 5 decimal places would be accepted.
United Energy	Sought clarification of the requirement to capture GPS coordinates for NCONUML and type 7 connections.  Questioned how to provide GPS coordinates for NMI's that have a 1-to-many unmetered devices relationship.
United Energy	Sought clarification as to why the requirement to provide GPS coordinates to 7 decimal places has changed from 5 in AEMO's First Draft Report.  Noted that 7 is unnecessary, plus that the costs would outweigh the benefits.
Vector Metering	Disagreed that GPS coordinates should be mandatory for all meters after 36 months, indicating: this would amount to applying a retrospective regulation; MCs which had installed remotely read meters prior to the effective date, but not recorded GPS locations, would be required to revisit sites just to collect this data; and the associated costs – which would be passed on to customers – outweigh the benefits.  Recommended that GPS coordinates are required, not mandatory, to be captured when site visits occur (meter investigations, manual meter read, adds and alts).

- *Other matters in relation to GPS Coordinates*

AusNet Services questioned the security and privacy issues that may arise if GPS coordinates are provided for large HV metered customers:

*"Perhaps there could be some security and privacy issues that should be considered if prescriptive asset location details, particularly for some critical HV metered customers (e.g. Dept of Defence sites) are stored in*



*MSATS, and participants systems, and published more broadly compared to today. This may require sites to be exempt from provision of accurate GPS location details to be provided to the market."*

#### **4.2.2 AEMO's assessment**

AEMO's assessment – based on the feedback, including as to costs and benefits – is that the appropriate obligations for GPS coordinates are:

- For NMIs with manually read meters: 'Required' for 36 months from effective date of the relevant Procedures, 'Mandatory' thereafter.
- For NMIs with remotely read meters: 'Mandatory' for new NMIs established from the effective date of the relevant Procedures and all NMIs when they have a physical field site visit, 'Required' for all other NMIs.
- Not Used for NMIS for Type 7 and NCONUML.

AEMO notes Ausgrid's suggestion to use a B2B service order, if a meter cannot be located. This solution would create ongoing costs to industry and customers. Each time a meter could not be located, a requestor would be required to pay for the service order. Alternatively, a one-off cost could be incurred to provide the GPS coordinates to all affected roles via MSATS. AEMO considers this MSATS solution future-proofs the information available to participants.

AEMO notes AusNet Services' feedback concerning security and privacy for specific large HV customers. GPS coordinates are Required for NMIs with remotely read meters and the structure/accuracy is 'up to 7 decimal places'. The data in MSATS is only for the participant roles which have the necessary permitted access rights, subject to their relevant privacy and security obligations.

AEMO received mixed responses on the proposed changes in respect of the MSATS Procedures: CATS Procedure, noting:

- CR2500 cannot be used for Greenfield sites, as this CR may only be used by the LNSP when it has the metering installation details and NMI datastream details at the time of the NMI creation. GPS coordinates are the MPB's obligation, networks have accredited MPB businesses and the LNSP is also the MPB for this CR. The MPB is the role that provides the GPS coordinates.
- CR3000/3001 requires data to be provided for new meters; the transition period only applies to existing meters.
- CR3050/3051 and CR3080/3081 make GPS coordinates optional under the 'may' section, in that the information only needs to be provided when available. The MPB has the obligation to provide the GPS coordinates information for CR3050/3051. The MC can use CR3080/3081 to provide the information, if it has the required metering installation details.
- CR3090/3091 can only be raised by the MC to provide metering installations details. The MC can use this CR to provide the relevant information, including GPS coordinates, if the MC has the required metering installation details.
- Table 16-C contemplates the field will be 'up to 7 decimal places', to make it consistent with the B2B requirements. This means GPS coordinates can be provided for accuracy levels from one decimal place to up to seven decimal places.

AEMO received mixed responses on the proposed changes in respect of the MSATS Procedures: WIGS Procedure, noting:

- WIGS and CATS have the same CRs, as they reside in the same system. AEMO notes the revised requirements for remotely read meters reduce the costs associated with gathering GPS coordinates for WIGS meters.



- The MPB is obliged to provide GPS coordinates for the meter/meter box.
- CR2500 cannot be used for Greenfield sites, as this CR may only be used by the LNSP when it has the metering installation details and NMI datastream details at the time of the NMI creation. GPS coordinates are the MPB's obligation, networks have accredited MPB businesses and the LNSP is also the MPB for this CR. The MPB is the role that provides the GPS coordinates.

AEMO received mixed responses on the proposed changes in respect of the Standing Data for MSATS document, noting:

- GPS coordinates should not be required for BULK, XBOUNDARY and INTERCON. GPS coordinates are Required for NMIs with remotely read meters. This means that the data is only to be provided where the participant holds the data. Otherwise, the data is not to be provided.
- The field will be 'up to 7 decimal places' to make it consistent with the B2B requirements. This means GPS coordinates can be provided for accuracy levels from 1 decimal place up to 7 decimal places.

#### 4.2.3 AEMO's conclusion

AEMO will make GPS coordinates:

- For NMIs with manually read meters: 'Required' for 36 months from the effective date of the relevant Procedures, 'Mandatory' thereafter.
- For NMIs with remotely read meters: 'Mandatory' for new NMIs established from the effective date of the relevant Procedures and all NMIs when they have a physical field site visit, 'Required' for all other NMIs.
- Not Used for NMIS for Type 7 and NCONUML.

### 4.3 Data Transition

In the Second Stage Consultation, AEMO received feedback as to the data transition required for all new, amended or removed fields.

In the Third Stage Consultation, AEMO obtained further feedback from participants on how data transition could work.

AEMO held an industry workshop to discuss the feedback received. The discussion focussed on when Required obligates a participant to provide data, as well as preferences among:

- bulk data provision via Change Requests;
- bulk data provision via a purpose-built tool; or
- gradual provision via Change Requests.

Details on the workshop are included on AEMO's website at: <https://aemo.com.au/consultations/current-and-closed-consultations/msats-standing-data-review>.

#### 4.3.1 Issue summary and submissions

AEMO recognises that the changes to all new, amended or removed fields as set out in this Final Report will require large movements of data between participants and AEMO. AEMO received further feedback on data transition options in the Third Stage Consultation:



Consulted person	Feedback summary
AusNet Services	Queried whether the 'House To' field would add value, where GPS coordinates are provided. Requested a minimum transition period of 36 months in line with GPS coordinates, if 'House To' is to be a new field.
AusNet Services	Proposed the SharedIsolationPointsFlag field be set to 'U' for Unknown by default and pre-populated by AEMO initially.
AusNet Services	Suggested for ReadTypeCode that AEMO populate all the VIC AMI RWDs (Type 5) to indicate 30 minutes. When a MPB converts the meters to 5 minute reads, then the MPB updates the ReadTypeCode. This would avoid participants sending a CR for every site (750K+).
AusNet Services	Recommended commencing the MSRD data transition window at the tail end of 5MS/GS go-live (October 2021).
Energy Queensland	Noted by Metering Dynamics that to adhere to this change, updates will be required to MP processes and systems, in line with required MSATS schema changes.
Origin Energy	<p>Queried whether AEMO can confirm – given the changed implementation date for 5 Minute Settlements – the following timelines in AEMO’s Issues Paper, Section 5.3, Issue Prioritisation and Implementation Details:</p> <ul style="list-style-type: none"> <li>December 2020 MSATS Release with effective date of 1 July 2021 Two new fields and one modified field as identified in Section 3 to support the following rule changes: <ul style="list-style-type: none"> <li>o National Electricity Amendment (Five Minute Settlement) Rule 2017 No.15.</li> <li>o National Electricity Amendment (Global settlement and market reconciliation) Rule 2018 No. 14.</li> <li>o Draft National Electricity Amendment (Introduction of metering coordinator planned interruptions) Rule 2020.</li> <li>o The proposed new fields are: Shared Isolation Points Flag which is outlined in Section 3.1.4; and TNI2 which is outlined in Section 3.2.3.</li> <li>o The field to be amended is Meter Read Type Code, outlined in Section 3.1.1.</li> </ul> </li> </ul>
SA Power Networks	Indicated that a minimum of 12 months (or longer, if agreed with AEMO) should be provided from the effective date of the new obligations to complete data provision to MSATS, to allow participants to populate data efficiently, thereby reducing costs to industry and customers.

#### 4.3.2 AEMO’s assessment

AEMO notes the respondents’ concerns in respect of the timeframes to prepare for the changes, the potential volume of data to be provided between participants and AEMO and the associated costs to develop solutions to deliver this data.

AEMO considers that data transition processes and timelines need to be established. With industry, AEMO will develop an industry-wide data transition plan for this substantive volume of data movement. AEMO intends to examine options for transition timeframes, bulk data provision, pre-population based on logic applied to various fields, as well as use of current change requests.





AEMO notes the changes related to 5MS and GS will be included in the appropriate system release for the revised 5MS and GS effective dates – now March and April 2021 – via the 5MS program.

AEMO will include the changes in respect of AEMC Rule Change ERC0275 in the March 2022 effective date procedures and documents changes.

### 4.3.3 AEMO's conclusion

With industry, AEMO intends to develop a data transition plan for industry and AEMO to enable a smooth changeover and provision of standing data.

## 4.4 Metering Installation Transformer Information

### 4.4.1 Issue summary and submissions

In the Third Stage Consultation, AEMO provided a list of proposed values and validations for Current Transformer (CT) and Voltage Transformer (VT) fields. AEMO indicated that those proposed values are provided as examples to stimulate feedback from participants, noting that some feedback had highlighted that options are missing for CT Types to allow for High Voltage (HV) CTs and Low Voltage (LV) Special CTs.

Accordingly, in the Second Stage Consultation, AEMO had asked participants to indicate the values and validations they need or want for the enumerated list for the various CT/VT fields. AEMO indicated that in the absence of feedback, the list proposed by AEMO would provide the initial values for the CT/VT fields.

In response to AEMO's question in the Second Draft Report:

- Aurora Energy, CitiPower Powercor, Endeavour Energy, EnergyAustralia and United Energy supported AEMO's proposed list of values and validations.
- Ausgrid mentioned the table proposed by AEMO does not include 1 amp secondary currents, which are quite common. This is an important piece of information. A different type of HV meter is required. Ausgrid suggested that two fields – primary (ratios as per AEMO's proposed table) and secondary (5A or 1A) – may be more appropriate.
- AusNet Services (including Mondo) noted that the proposal of an enumerated list may mean particular configurations for CT/VT combinations are not captured. The CT values do not cater for 1 amp secondary, or other primary values that are in the field, including 100: 1 and 150: 1. Given the range of various CT types for HV, AusNet Services recommended that where the site is HV, the fields should be populated by the MP in a free text field, rather than an enumerated list.
- Metering Dynamics expressed comfort that the CT ratios listed cover the LV CTs encountered in the NEM. For HV CTs, Metering Dynamics finds a much larger range of ratios is applied, with no real standard ratios. Metering Dynamics has HV installations with over 120 different CT ratios (listing provided). Accordingly, the option of 'HV CT' may be much more practicable than nominating a specific ratio where the installation is HV connected.
- Intellihub, Powermetric Metering and AusNet Services (inclusive of Mondo) provided tables with their various CT/VT information, suggesting it be added to the AEMO validation list.
- PLUS ES sought clarification as to: what the continuum process would be, once these enumerations are implemented; how the introduction of new enumerations would be included in the existing list; and how the validations would be applied, until the new fields were introduced. PLUS ES noted that the more complex the scenarios and combinations which belong in MC/MPB asset management systems, the greater the potential to cause data validation issues. Accordingly – as well as to mitigate potential complexity – PLUS ES recommended that an 80-20 or 90-10 rule is applied, with a field being allowed for the 'exception' cases. Participants can follow up with the



MPB for further details. At least, with this option, the bulk of the administrative effort has been mitigated.

#### **4.4.2 AEMO's assessment**

Based on this feedback, AEMO has developed a modified list of enumerations for the CT/VT fields, as set out in Table 3 in Section 5 of this Final Report.

Due to the large number of possible CT Ratio values, AEMO has split the new CT Ratio field into two new fields, as follows:

- Current Transformer Ratio (Available).
- Current Transformer Ratio (Connected).

AEMO notes that the enumerated lists of the various CT/VT fields can be updated to introduce new enumerations in the future, to accommodate participant needs if all combinations have not been identified throughout this consultation, as well as other developments.

#### **4.4.3 AEMO's conclusion**

AEMO's modified list of enumerations for the CT/VT fields is set out in Table 3 in Section 5 of this Final Report.

AEMO has split the new CT Ratio field into the two new fields, as follows:

- Current Transformer Ratio (Available).
- Current Transformer Ratio (Connected).

AEMO notes that the enumerated lists of the various CT/VT fields can be updated to introduce new enumerations in the future, to accommodate participant needs, as well as other developments.



## 5. AEMO'S CONCLUSIONS ON MSDR CHANGES

### 5.1 New, Amended and Removed Fields

The following table summarises AEMO's conclusions on MSDR changes for all the MSATS Standing Data fields, including amendments to existing fields, removal of existing fields, and addition of new fields.

These conclusions take into consideration the discussions from two pre-consultation workshops in November 2018 and February 2020, as well as submissions to the three stages of consultation.

Change Type	Information Category	Field Name	AEMO's Conclusion
Amended	General Metering Installation Information	Last Test Date	Field amended from 'Optional' to 'Required'.
Amended	General Metering Installation Information	Meter Test Result Accuracy	<ul style="list-style-type: none"> <li>Field name amended from 'Meter Test Result Accuracy' to "Meter Test Result".</li> <li>Field amended from 'Optional' to 'Required', with an enumerated list of values, as detailed below in Table 1.</li> </ul>
Amended	General Metering Installation Information	Meter Manufacturer	Field amended from 'Optional' to 'Mandatory', with an enumerated list of values corresponding to current Meter Manufacturers in the industry, with the options of UNMETERED and UNKNOWN.
Amended	General Metering Installation Information	Meter Model	Field amended from 'Optional' to 'Mandatory', with an enumerated list of values corresponding to current Meter Models in the industry, with the options of UNMETERED and UNKNOWN.
Amended	General Metering Installation Information	Meter Read Type Code	<p>Field amended from 'Optional' to 'Required'. Fourth character added to identify whether a meter is capable of reading at five-minute granularity, as per one of the following codes:</p> <ul style="list-style-type: none"> <li>A – 5 minute.</li> <li>B – 15 minute.</li> <li>C – 30 minute.</li> <li>D – Cannot convert to 5-minute (i.e. due to metering installation de-energised).</li> <li>M – Manually Read Accumulation Meter.</li> </ul>
Amended	General Metering Installation Information	Meter Use	Field amended from 'Optional' to 'Mandatory', with an enumerated list of values, as detailed below in Table 2.
Amended	General Metering Installation Information	Hazard	<ul style="list-style-type: none"> <li>Field amended from 'Optional' to 'Required'.</li> <li>Field description amended to "Free text or code identifying hazards on the site associated with reading, maintaining or installing the meter, i.e. Asbestos".</li> </ul>
Removed	General Metering Installation Information	Asset Management Plan	AEMO and the majority of Participants agreed to remove this field as it has a low population rate and there is no current use for it.



Removed	General Metering Installation Information	Calibration Tables	
Removed	General Metering Installation Information	Meter Constant	
Removed	General Metering Installation Information	Meter Point	
Removed	General Metering Installation Information	Meter Program	
Removed	General Metering Installation Information	Meter Route	
Removed	General Metering Installation Information	Meter Test & Calibration Program	
Removed	General Metering Installation Information	Meter Test Result Notes	
Removed	General Metering Installation Information	Next Test Date	
Removed	General Metering Installation Information	Test Performed By	
Removed	Metering Installation Location Information	Additional Site Information	Field removed, with contents to be moved to the existing field Meter Location.
Amended	Metering Installation Location Information	Meter Location	<ul style="list-style-type: none"> <li>Field amended from 'Optional' to 'Required'</li> <li>Field size increased to accommodate data from removed field 'Additional Site Information'.</li> </ul>
New	Metering Installation Location Information	GPS Coordinates Latitude	<ul style="list-style-type: none"> <li>New field added to capture the GPS Coordinates Latitude of the metering installation (not site) – being the angular measurement North or South of the equator in decimal degrees (up to seven decimal places).</li> <li>Angles South of the equator (e.g. Australia) will be represented as negative values. E.g. -37.8886755.</li> </ul>
New	Metering Installation Location Information	GPS Coordinates Longitude	<ul style="list-style-type: none"> <li>New field added to capture the GPS coordinates Longitude of the metering installation (not site) – being the angular measurement East or West of the prime meridian in decimal degrees (up to seven decimal places).</li> <li>Angles East of the prime meridian (e.g. Australia) will be represented as positive values. E.g. +145.1410361.</li> </ul>



Amended	Meter Read Estimation Information	Next Scheduled Read Date	Field amended from: <ul style="list-style-type: none"> <li>• 'Optional' to 'Mandatory' for manually read meters.</li> <li>• 'Required' for Type 7 metering installations with calculated metering data, where the forward estimate process is using a BLOCK methodology.</li> <li>• 'Not Used' for remotely read meters.</li> </ul>
Removed	Meter Read Estimation Information	Data Validations	AEMO and the majority of Participants agreed to remove this field as it has a low population rate and there is no current use for it.
Removed	Meter Read Estimation Information	Estimation Instructions	
Removed	Meter Read Estimation Information	Measurement Type	
Removed	Meter Communications Information	Communications Equipment Type	
Removed	Meter Communications Information	Communication Protocol	
Removed	Meter Communications Information	Data Conversion	
Removed	Meter Communications Information	Password	
Removed	Meter Communications Information	Remote Phone Number	
Removed	Meter Communications Information	User Access Rights	
New	Transformer Information	Current Transformer Location	
New	Transformer Information	Current Transformer Type	<ul style="list-style-type: none"> <li>• New field added to indicate whether the current transformer at the metering installation is single phase or three phase.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDRY and INTERCON meters.</li> <li>• Field replaces the removed field 'Transformer Type'.</li> <li>• Field has an enumerated list of values, as detailed below in Table 3.</li> </ul>



New	Transformer Information	Current Transformer Ratio (Available)	<ul style="list-style-type: none"> <li>• New field to include the ratio of the current transformer (Available) at the metering installation.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field replaces the removed field 'Transformer Ratio'.</li> <li>• Field has an enumerated list of values, as detailed below in Table 3.</li> </ul>
New	Transformer Information	Current Transformer Ratio (Connected)	<ul style="list-style-type: none"> <li>• New field to include the ratio of the current transformer (Connected) at the metering installation.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field replaces the removed field 'Transformer Ratio'.</li> <li>• Field has an enumerated list of values, as detailed below in Table 3.</li> </ul>
New	Transformer Information	Current Transformer Accuracy Class	<ul style="list-style-type: none"> <li>• New field to include the accuracy class of the current transformer at the metering installation.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field has an enumerated list of values, as detailed below in Table 3.</li> </ul>
New	Transformer Information	Current Transformer Test	<ul style="list-style-type: none"> <li>• New field to indicate the type of test performed on metering installation with Current Transformer.</li> <li>• The field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field has an enumerated list of values, as detailed below in Table 3.</li> </ul>
New	Transformer Information	Current Transformer Test Date	<ul style="list-style-type: none"> <li>• New field to include a date that represents either: actual test date for metering installations with Current Transformer tested; or family expiry date for those included in an approved sample plan.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> </ul>
New	Transformer Information	Voltage Transformer Location	<ul style="list-style-type: none"> <li>• New free text field added to indicate the location of the voltage transformer at the site.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field replaces the removed field 'Transformer Location'.</li> </ul>
New	Transformer Information	Voltage Transformer Type	<ul style="list-style-type: none"> <li>• New field added to indicate whether the voltage transformer at the metering installation is single phase or three phase.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field replaces the removed field 'Transformer Type'.</li> </ul> <p>Field has an enumerated list of values, as detailed below in Table 3.</p>



New	Transformer Information	Voltage Transformer Ratio (Available and Connected)	<ul style="list-style-type: none"> <li>• New field to include the ratio of the voltage transformer (Available and Connected) at the metering installation.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field replaces the removed field 'Transformer Ratio'.</li> <li>• Field has an enumerated list of values, as detailed below in Table 3.</li> </ul>
New	Transformer Information	Voltage Transformer Accuracy Class	<ul style="list-style-type: none"> <li>• New field to include the accuracy class of the voltage transformer at the metering installation.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field has an enumerated list of values, as detailed below in Table 3.</li> </ul>
New	Transformer Information	Voltage Transformer Test	<ul style="list-style-type: none"> <li>• New field to indicate the type of test performed on metering installation with Voltage Transformer.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> <li>• Field has an enumerated list of values, as detailed below in Table 4.</li> </ul>
New	Transformer Information	Voltage Transformer Test Date	<ul style="list-style-type: none"> <li>• New field to include a date that represents actual test date for metering installations with Voltage Transformer tested or date represents family expiry date for those included in an approved sample plan.</li> <li>• Field is 'Required', and not used for NCONUML, BULK, XBOUNDARY and INTERCON meters.</li> </ul>
Removed	Transformer Information	Transformer Location	Field removed and replaced by new separate fields for Current transformer location and Voltage transformer location.
Removed	Transformer Information	Transformer Type	Field removed and replaced by new separate fields for Current transformer type and Voltage transformer type.
Removed	Transformer Information	Transformer Ratio	Field removed and replaced by new separate fields for Current transformer ratio and Voltage transformer ratio.
Removed	NMI Data	Address Line 1	AEMO and majority of Participants agreed to remove the unstructured address fields following an agreed period of data cleansing.
Removed	NMI Data	Address Line 2	
Removed	NMI Data	Address Line 3	
New	NMI Data	G-NAF PID	Unstructured address fields removed and G-NAF PID field added, as agreed by AEMO and majority of Participants.
New	NMI Data	Transmission Node Identifier 2	Field to be introduced in MSATS, then populated by AEMO on behalf of Participants for existing NMIs and for any future new NMIs, as agreed.
Amended	NMI Data	Delivery Point Identifier (DPID)	DPID field – which has been made 'Required' – to be reviewed for applicability by AEMO for one year of the G-NAF PID field being populated, to determine if DPID could be removed.



New	NMI Data	DP Number	Field, as agreed, to be added as: <ul style="list-style-type: none"> <li>'Required' for NSW and ACT within the structured address fields, since they add value in site identification at NMI creation.</li> </ul> 'Optional' in other jurisdictions.
New	NMI Data	Section Number	Field, as agreed, to be added as: <ul style="list-style-type: none"> <li>'Required' for NSW and ACT within the structured address fields, since they add value in site identification at NMI creation.</li> </ul> 'Optional' in other jurisdictions.
Amended	NMI Data	Feeder Class	Field, as agreed, to be made: <ul style="list-style-type: none"> <li>'Required' for Queensland jurisdiction.</li> <li>'Optional' for all other jurisdictions in NEM.</li> </ul> Procedures to be amended to include 'Required in the Queensland jurisdiction where relevant'.
New	NMI Data	Shared Isolation Point Flag	Field to be included in NMI Data instead of Meter Register, then populated with enumerated values – as detailed below in Table 7 – as per Participant suggestion.
New	NMI Data	Meter Malfunction Exemption Number	Field to be added at the NMI level, then populated and updated by AEMO once the exemption process is automated, as per Participant feedback.
New	NMI Data	Meter Malfunction Exemption Expiry Date	
New	NMI Data	Connection Configuration	Field to: <ul style="list-style-type: none"> <li>Be included at the NMI level, with the LNSP assigned with the responsibility to provide the data, as per AEMO's position from the First Draft Report.</li> <li>However, remove the third and the fourth characters which identify the presence of CT and VT, as this information may not always be available for the LNSP.</li> <li>Consequently, become a two-character code, instead of the previously proposed four-character code.</li> <li>Denote information about the configuration of the connection point, as follows: <ul style="list-style-type: none"> <li>First Character = Connection Type H = High voltage (as defined in the NER) L = Low voltage (lower than the threshold defined for high voltage in the NER)</li> <li>Second Character = Phases In Use 1 = Single Phase 2 = Two-Phase 3 = Three-Phase</li> </ul> </li> </ul>





New	NMI Data	House Number To	Field to be a numeric reference for scenarios where the property address is similar to 4-10 Smith St., as proposed by AEMO, based on limitations highlighted by Participants which caused the population of unstructured addresses, including: a. No more than 5 characters. No characters such as – (e.g. 15-18 XXX Rd).
Amended	NMI Data	Building or Property Name	Unstructured Address field has been removed, so the reference to 'Address Option' in Standing Data Required column has been corrected with 'Required'.
Amended	NMI Data	Lot Number	
Amended	NMI Data	Flat or Unit Number	
Amended	NMI Data	Flat or Unit Type	
Amended	NMI Data	Floor or Level Number	
Amended	NMI Data	Floor or Level Type	
Amended	NMI Data	House Number	
Amended	NMI Data	House Number Suffix	
Amended	NMI Data	Street Name	
Amended	NMI Data	Street Suffix	
Amended	NMI Data	Street Type	
Amended	NMI Data	Location Description	
Amended	Register Identifier	Controlled Load	
Amended	Register Identifier	Time of Day	AEMO agreed with Participants proposal to enumerate the field and cleanse the existing data. Refer to Table 6 below for the list of enumerated values.
Removed	Register Identifier	Demand 1	AEMO agreed with Participants proposal of removing the field owing to extremely low population rate of just 1% and hence its low value to the market.
Removed	Register Identifier	Demand 2	AEMO agreed with Participants proposal of removing the field owing to extremely low population rate of just 1% and hence its low value to the market.
Amended	Register Identifier	Network Additional Information	AEMO agreed with majority Participant feedback to not remove the field since there is no other field suitable enough to provide the information held by this field. The field is now of type 'Required'.

**Table 1 – Valid Meter Test Result Values**

Value	Description
PASS	Test has passed
FAIL	Test has failed

**Table 2 – Valid Meter Use Values**

Value	Description
REVENUE	Revenue meter.
CHECK	Check meter.
STATISTICAL	Statistical meter.
TUOS	TUOS meter.
LOGICAL	Logical meter.
SAMPLE	Sample meter.
AVERAGE	Average meter.
PREPAID	Prepaid meter.
INFORMATION	Information meter.
UNKNOWN	Unknown meter use code.
UNMETERED	Unmetered loads.

**Table 3 – Valid Transformer Information Values**

Transformer Information Field	Valid Values	
CT Type	A B C S T U	V W LV OTHER HV 1A HV 5A



CT Ratio	5 : 5	300 / 600 : 5	50 / 100 / 150 : 1	500 / 1500 / 2500 : 1
(Available)	10 : 5	300 : 5	50 / 300 : 1	500 / 1500 : 1
	15 : 5	400 / 800 / 1200 : 5	50 : 1	500 : 1
	20 / 50 / 100 / 150 : 5	400 : 5	75 : 1	600 / 800 / 1200 / 1600 : 1
	20 / 50 / 100 : 5	500 / 1000 : 5	100 / 200 : 1	600 / 1200 / 2400 : 1
	25 / 50 / 100 / 150 : 5	500 : 5	100 / 400 / 800 / 1200 : 1	600 : 1
	25 / 50 / 100 : 5	600 / 900 / 1200 : 5	100 : 1	630 : 1
	25 : 5	600 / 1200 : 5	125 / 200 : 1	650 : 1
	30 : 5	600 : 5	125 : 1	750 : 1
	40 : 5	630 : 5	150 / 300 / 600 / 800 : 1	800 / 1200 / 2500 : 1
	50 / 100 / 150 : 5	750 / 1500 : 5	150 / 300 / 600 / 1200 : 1	800 / 2000 / 2400 / 4000 : 1
	50 / 100 : 5	750 : 5	150 : 1	800 : 1
	50 / 150 / 250 : 5	800 / 1200 : 5	150 : 1	900 : 1
	50 / 150 : 5	800 : 5	200 / 400 / 600 : 1	1000 / 1600 : 1
	50 : 5	1000 / 1500 : 5	200 / 400 / 800 / 1200 / 2400 : 1	1000 : 1
	60 : 5	1000 / 2000 / 3000 : 5	200 / 400 / 800 : 1	1100 : 1
	75 : 5	1000 : 5	200 / 800 / 1200 / 2000 : 1	1200 / 1600 / 2000 : 1
	80 : 5	1200 : 5	200 / 800 / 1200 / 2400 : 1	1200 : 1
	100 / 200 / 300 : 5	1250 : 5	200 : 1	1250 : 1
	100 / 200 / 400 : 5	1500 : 5	250 / 500 / 1000 : 1	1400 : 1
	100 / 200 : 5	1600 : 5	250 : 1	1500 / 2000 / 2500 : 1
	100 : 5	2000 / 3000 : 5	300 / 600 / 1200 : 1	1500 : 1
	120 : 5	2000 : 5	300 : 1	1600 : 1
	125 : 5	2400 : 5	400 / 800 / 1200 : 1	1700 : 1
	150 / 300 / 600 : 5	2500 : 5	400 / 800 / 1600 / 2800 : 1	1900 : 1
	150 / 300 : 5	3150 : 5	400 / 800 / 1600 : 1	2000 : 1
	150 : 5	3200 : 5	400 / 800 : 1	2400 : 1
	160 : 5	4000 : 5	400 / 1000 / 1200 : 1	2500 : 1
	200 / 400 / 800 : 5	4500 : 5	400 / 1200 : 1	3000 : 1
	200 / 400 : 5	5000 : 5	400 / 1600 / 2400 : 1	3200 : 1
	200 : 5	1 : 1		4000 : 1
	250 : 5	5 : 1		4500 : 1
		25 : 1		4800 : 1
		40 / 60 : 1		5000 : 1



CT Ratio (Connected)	5 : 5	400 : 5	5 : 1	1000 : 1
	10 : 5	500 : 5	25 : 1	1100 : 1
	15 : 5	600 : 5	40 : 1	1200 : 1
	20 : 5	630 : 5	50 : 1	1250 : 1
	25 : 5	750 : 5	75 : 1	1400 : 1
	30 : 5	800 : 5	100 : 1	1500 : 1
	40 : 5	1000 : 5	125 : 1	1600 : 1
	50 : 5	1200 : 5	150 : 1	1700 : 1
	60 : 5	1250 : 5	200 : 1	1900 : 1
	75 : 5	1500 : 5	250 : 1	2000 : 1
	80 : 5	1600 : 5	300 : 1	2400 : 1
	100 : 5	2000 : 5	400 : 1	2500 : 1
	120 : 5	2400 : 5	500 : 1	3000 : 1
	125 : 5	2500 : 5	600 : 1	3200 : 1
	150 : 5	3150 : 5	630 : 1	4000 : 1
	160 : 5	3200 : 5	650 : 1	4500 : 1
	200 : 5	4000 : 5	750 : 1	4800 : 1
250 : 5	4500 : 5	800 : 1	5000 : 1	
300 : 5	5000 : 5	900 : 1		
CT Accuracy Class	0.1		0.5ME2.5	
	0.2		0.5 EXT 200%	
	0.2M		0.5S	
	0.2ME1.5		0.5S EXT 200%	
	0.2ME2		1	
	0.2ME2.5		2	
	0.2S		AM	
	0.5		BM	
	0.5M		0.05PX	
	0.5ME1.25		UNKNOWN	
	0.5ME2			
VT Type	IVT (Inductive Voltage Transformer)			
	CVT (Capacitive Voltage Transformer)			
	COMBINED (IVT + CT)			
	Three-Phase Three-Limb			
	Three-Phase Five-Limb			
VT Ratio (Available and Connected)	3300 : 110		44000 : 110	
	5000 : 110		66000 : 110	
	5500 : 110		110000 : 110	
	6600 : 110		132000 : 110	
	11000 : 110		220000 : 110	
	11500 : 110		275000 : 110	
	22000 : 110		330000 : 110	
	33000 : 110		500000 : 110	



VT Accuracy Class	0.01M
	0.2M
	0.5M
	1M
	A
	B
	C
	D
	AL
	BL
	UNKNOWN

**Table 4 – Valid Transformer Test Values**

Value	Description
Tested	Part of 100% testing
Sample Tested	Tested as part of a sample plan
Sample	Part of an approved sample plan

**Table 5 – Controlled Load Codes**

Value	Description
No	This register does not record controlled Load
CL1	Controlled load 1
CL2	Controlled load 2
CL3	Controlled load 3

**Table 6 – Time of Day Codes**

Value	Description
ALLDAY	All day
INTERVAL	Interval time of day, used for all Interval metering
PEAK	Peak time of day
BUSINESS	Business time of day
SHOULDER	Shoulder time of day
EVENING	Evening time of day
OFFPEAK	Off peak time of day
CONTROLLED	Controlled time of day
DEMAND	Demand is used for describing a register

**Table 7 – Shared Isolation Point Flag**

Value	Description
Y	Shared Fuse Arrangement is present
N	No Shared Fuse Arrangement is present
I	Metering Installation is Isolated independently but still part of the Shared Fuse Arrangement
U	Presence of Shared Fuse Arrangement is Unknown

## 5.2 NER Schedule 7.1 Rule Change

Schedule 7.1.2 (S7.1.2) of the NER prescribes the minimum contents of the data fields in MSATS. S7.1.2 is highly granular as to the information that must be included in the metering register.

AEMO considers that S7.1.2 prescribes information which is outdated or irrelevant. Participants indicated similar views, during the pre-consultation workshops.

AEMO sought feedback on its proposals to:

- reduce the granularity of S7.1.2, by amending it to describe the broad information categories that must be included at minimum, as opposed to being prescriptive; and
- provide full specific details at the procedural level, at the beginning of the CATS Procedures, which lists the fields to be included in MSATS.

AEMO agrees with majority participant feedback in support of these proposals.

These proposals offer the benefits of:

- enabling future changes to be achieved through procedure consultations, rather than full Rule changes; and
- maintaining protections and obligations in the market, while offering greater efficiency when implementing changes to MSATS.

AEMO agrees with participant feedback to remove the following fields, because they are not suitable, beneficial or indeed implemented in the market:

Change Type	Information Category	Field Name	AEMO’s Conclusion
Propose remove field	NER Schedule 7.1	Loss compensation calculation details	Field to be proposed to be removed from Schedule 7.1.2.
Propose remove field	NER Schedule 7.1	Data register coding details	
Propose remove field	NER Schedule 7.1	Write password (to be contained in a hidden or protected field)	

AEMO may request these changes be included in the AEMC’s review of Competition in Metering – which is due to commence in late 2020 – or as part of a Schedule 7.1 Rule change proposal.



AEMO considers that this rule change would enable flexibility in relation to data requirements under the MSATS Procedures.

The appropriate consultation would occur at the relevant time.



## 6. PROCEDURE AND DOCUMENT CHANGES

In the Second Stage Consultation, AEMO published draft changes to the following procedures and documents:

- MSATS Procedures: CATS Procedure.
- MSATS Procedures: WIGS Procedure.
- Metrology Procedure: Part A.
- Retail Electricity Market Procedures – Glossary and Framework.
- Exemption Procedure – Meter Installation Malfunctions.
- Standing Data for MSATS Document.

AEMO received feedback on these documents as to:

- Data requirement of some fields, including whether data should be mandatory, required, or optional.
- Exclusion of some meter types from the data requirements of some fields.
- Addition or removal of values from the proposed enumerated list of values for some fields.
- Suggested corrections to formatting and typing errors.

AEMO has considered all feedback on the changes to these documents. AEMO has provided detailed responses to submissions in Appendix B of this Final Report. AEMO also amended these documents in light of the feedback received.





## 7. FINAL DETERMINATION

AEMO’s final determination is to amend the retail electricity procedures and other relevant documents in the form published with this Final Report. These documents include the Standing Data for MSATS document. AEMO proposes the changes will take effect on the date nominated in each relevant document.

Inadvertently, Section 16 in the Second Draft Stage Standing Data for MSATS document – “Cross Reference of Browser and aseXML Data Elements” – is inconsistent with Sections 2.3 and 5.3 of the Second Draft Report:

- Sections 2.3 and 5.3 reference the intent that the proposed changes will be flexible and future focussed, as a matter of principle, as well as practice and application. This intent was further discussed at the Data Transition Workshop on 17 July 2020.
- Section 16 includes new values with enumeration in the aseXML, which is inconsistent with this intent.

Accordingly, these inconsistent references are excluded from the corresponding section – Section 18 – in the Final Standing Data for MSATS document. Instead, the relevant values are included in the appropriate codes tables in MSATS.

AEMO is publishing three sets of retail electricity procedures and other relevant documents to capture the timing of the various MSATS standing data changes:

Phase	Effective Date	Inclusions
5MS/GS	1 October 2021	ReadTypeCode TNI2
MSATS Standing Data Review Phase 1	14 March 2022	New and amended fields
MSATS Standing Data Review Phase 2	7 November 2022	Removed fields

AEMO acknowledges that changes need to occur to the procedures and documents based on various rule changes and initiatives and this will overlap in timing with the MSATS Standing Data Review. Changes will be consulted at different timings but consolidated in the procedures and documents prior to each effective date. These procedures and documents include:

### 5MS/GS Standing Data Changes effective 1 October 2021

- MSATS Procedures - CATS v5.1 (Final Determination Change Marked)
- MSATS Procedures - CATS v5.1 (Final Determination Clean)
- MSATS Procedures - WIGS v5.1 (Final Determination Change Marked)
- MSATS Procedures - WIGS v5.1 (Final Determination Clean)
- Standing Data for MSATS document v4.5 (Change Marked)
- Standing Data for MSATS document v4.5 (Clean)

### MSATS Standing Data Review Phase 1 effective 14 March 2022



- MSATS Procedures - CATS v5.4 (Final Determination Change Marked)
- MSATS Procedures - CATS v5.4 (Final Determination Clean)
- MSATS Procedures - WIGS v5.4 (Final Determination Change Marked)
- MSATS Procedures - WIGS v5.4 (Final Determination Clean)
- Metrology Procedure Part A v7.15 (Final Determination Change Marked)
- Metrology Procedure Part A v7.15 (Final Determination Clean)
- Retail Electricity Market Procedures - Glossary and Framework v3.4 (Final Determination Change Marked)
- Retail Electricity Market Procedures - Glossary and Framework v3.4 (Final Determination Clean)
- Exemption Procedure – Meter Installation Malfunctions v1.2 (Final Determination Change Marked)
- Exemption Procedure – Meter Installation Malfunctions v1.2 (Final Determination Clean)
- Standing Data for MSATS document v5.2 (Change Marked)
- Standing Data for MSATS document v5.2 (Clean)

MSATS Standing Data Review Phase 2 effective 7 November 2022

- MSATS Procedures - CATS v5.5 (Final Determination Change Marked)
- MSATS Procedures - CATS v5.5 (Final Determination Clean)
- MSATS Procedures - WIGS v5.5 (Final Determination Change Marked)
- MSATS Procedures - WIGS v5.5 (Final Determination Clean)
- Standing Data for MSATS document v5.3 (Change Marked)
- Standing Data for MSATS document v5.3 (Clean)



## APPENDIX A - GLOSSARY

Term or acronym	Meaning
5MS	Five Minute Settlement
ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
API	Application Programming Interface
ASP	Accredited Service Provider
BULK	<i>Connection point where a transmission network connects to a distribution network - also termed 'Bulk Supply Point'</i>
CATS	Consumer Administration and Transfer Solution, a part of MSATS
CDR	Consumer Data Right
COAG	Council of Australian Governments
CR	Change Request
CRC	Change Reason Code
CT	Current Transformer
DI	Data Interchange
DNSP	Distribution Network Service Provider
DP	Deposited Plan
DPID	Delivery Point Identifier
DWHOLSAL	<i>Distribution network connection point where energy is directly purchased from the spot market by a Market Customer</i>
Enumerated	Enumeration limits a field to a specific set of values. If a value isn't listed in the schema, it would not be valid.
ESC	Essential Services Commission
FRMP	Financially Responsible Market Participant
G-NAF	Geocoded National Address File
GPS	Global Positioning System
GS	Global Settlement
GSL	Guaranteed Service Level
HLD	High Level Design
INTERCON	<i>Interconnector</i>
LNSP	Local Network Service Provider
'Mandatory'	In relation to a field, Transfer, Validation or processing cannot proceed without this data.
MC	Metering Coordinator
MDFF	Meter Data File Format
MDP	Metering Data Provider
MP	Meter Provider
MPB	Meter Provider (Category B)



MRAM	<i>small customer metering installation</i> – Type 4A
MRIM	Manually Read Interval Meter – Type 5
MSATS	Market Settlements and Transfer Solution
NMI	National Metering Identifier
NECF	National Energy Customer Framework
NEM	National Electricity Market
NER	National Electricity Rules
NERR	National Energy Retail Rules
NSRD	Next Scheduled Read Date
NTC	Network Tariff Code
'Optional'	In relation to fields, this data does not have to be provided but will be accepted if delivered.
PID	Persistent Identifier
'Required'	In relation to fields, this data must be provided if this information is available.
REPI	Retail Electricity Pricing Inquiry
TNI2	TNI Code assigned, by AEMO, to a <i>distribution network</i> into which energy normally flows through a <i>connection point</i> between adjacent <i>distribution networks</i> that has a single <i>NMI</i> .
UFE	Unaccounted for Energy
VICAMI	a relevant <i>metering installation</i> as defined in clause 9.9C of the NER.
VT	Voltage Transformer
WIGS	Wholesale, Interconnector, Generator and Sample NMIs

## APPENDIX B - SUMMARY OF SUBMISSIONS AND AEMO RESPONSES

### Questions raised in the MSATS Standing Data Review Second Draft Report

#### Material Issues

**Table 1 Metering Installation Transformer Information**

No.	Consulted person	Respondent Comments	AEMO response
<p>Q1 The proposed CT/VT fields values and validations, as listed above, are provided as examples to stimulate feedback from participants. AEMO notes some feedback that options are missing for CT Types, to allow for HV CTs and LV Special CTs. What is the list of values and validations that you need or want for the enumerated list for the various CT/VT fields? (In the absence of any such feedback, the list proposed by AEMO would provide the initial values for the CT/VT fields?)</p>			
1.	Aurora Energy	Aurora Energy is comfortable with the list provided	AEMO notes the respondent’s support for the proposed list.
2.	Ausgrid	The table proposed by AEMO does not include 1amp secondary currents, which are quite common, this is an important piece of information and a different type of HV meter is required. Ausgrid suggests that two fields, primary (ratios as per AEMO’s proposed table) and secondary (5A or 1A) may be more appropriate.	AEMO notes the respondent’s comment and proposed values, and will take it into consideration when coming up with the list of possible values for the various CT and VT fields. Please refer to the MSDR Final Report and Determination Section 4.4 for the list of enumerated values for the CT and VT fields. This list can be updated and new enumerations can be introduced in the future to accommodate participants’ needs and future changes.
3.	AusNet Services (including Mondo)	The proposal of an enumerated list may mean particular configurations for CT/VT combinations are not captured. The CT values do not cater for 1 amp secondary, nor other primary values that are in the field, e.g. 100: 1, 150: 1 etc. Given the range of various CT types for HV, we recommended that where the site is HV, the fields should be populated by the MP in a free text field rather than an enumerated list.	AEMO notes the respondent’s comment and refers to the response in Table 1, item 2.

No.	Consulted person	Respondent Comments	AEMO response																																																																																										
4.	CitiPower Powercor	CitiPower Powercor supports the list proposed by AEMO.	AEMO notes the respondent's support for the proposed list.																																																																																										
5.	Endeavour Energy	We confirm that the values proposed is appropriate for us.	AEMO notes the respondent's support for the proposed list.																																																																																										
6.	Energy Queensland	Metering Dynamics are comfortable that the CT ratios listed cover the LV CTs encountered in the NEM. For HV CT's we have found that there is a much larger range of ratios applied and no real standard ratios. Metering Dynamics has HV installations with over 120 different CT ratios (listing provided) and as such feel it may be more practicable to have an option of 'HV CT' in lieu of nominating a specific ratio where the installation is HV connected.	AEMO notes the respondent's comment and refers to the response in Table 1, item 2.																																																																																										
7.	EnergyAustralia	EnergyAustralia supports the list proposed by AEMO.	AEMO notes the respondent's support for the proposed list.																																																																																										
8.	Intellihub	<p>The following tables provide the various CT/VT information we have found to date, suggest adding these to the AEMO validation list.</p> <table border="1" data-bbox="456 826 1034 1404"> <thead> <tr> <th>CT Type</th> <th>CT Ratio</th> <th>CT/VT Class</th> <th>VT Ratio</th> </tr> </thead> <tbody> <tr><td>A</td><td>150/5</td><td>0.05PX</td><td>11000/110</td></tr> <tr><td></td><td>300/5</td><td>0.2</td><td>22000/110</td></tr> <tr><td></td><td>600/5</td><td>0.2M</td><td>33000/110</td></tr> <tr><td>B</td><td>1200/5</td><td>0.2ME1.5</td><td>6600/110</td></tr> <tr><td></td><td>400/5</td><td>0.2ME2.5</td><td>66000/110</td></tr> <tr><td></td><td>800/5</td><td>0.2S</td><td>132000/110</td></tr> <tr><td>C</td><td>1000/5</td><td>0.5</td><td>220000/110</td></tr> <tr><td></td><td>2000/5</td><td>0.5M</td><td>275000/110</td></tr> <tr><td></td><td>3000/5</td><td>0.5ME1.25</td><td>330000/110</td></tr> <tr><td>S</td><td>200/5</td><td>0.5ME1.5</td><td>500000/110</td></tr> <tr><td>U</td><td>2000/5</td><td>0.5ME2</td><td></td></tr> <tr><td>W</td><td>1500/5</td><td>0.5ME2.5</td><td></td></tr> <tr><td>SPECIAL</td><td>100/5</td><td>0.5S</td><td></td></tr> </tbody> </table> <table border="1" data-bbox="1061 692 1279 1404"> <thead> <tr> <th>CT Type</th> <th>CT Ratio</th> </tr> </thead> <tbody> <tr><td>HV - 1Amp</td><td>100/1</td></tr> <tr><td></td><td>1000/1</td></tr> <tr><td></td><td>120/1</td></tr> <tr><td></td><td>150/1</td></tr> <tr><td></td><td>200/1</td></tr> <tr><td></td><td>25/1</td></tr> <tr><td></td><td>250/1</td></tr> <tr><td></td><td>30/1</td></tr> <tr><td></td><td>300/1</td></tr> <tr><td></td><td>400/1</td></tr> <tr><td></td><td>50/1</td></tr> <tr><td></td><td>500/1</td></tr> <tr><td></td><td>600/1</td></tr> <tr><td></td><td>75/1</td></tr> <tr><td></td><td>800/1</td></tr> <tr><td>HV - 5Amp</td><td>100/5</td></tr> </tbody> </table>	CT Type	CT Ratio	CT/VT Class	VT Ratio	A	150/5	0.05PX	11000/110		300/5	0.2	22000/110		600/5	0.2M	33000/110	B	1200/5	0.2ME1.5	6600/110		400/5	0.2ME2.5	66000/110		800/5	0.2S	132000/110	C	1000/5	0.5	220000/110		2000/5	0.5M	275000/110		3000/5	0.5ME1.25	330000/110	S	200/5	0.5ME1.5	500000/110	U	2000/5	0.5ME2		W	1500/5	0.5ME2.5		SPECIAL	100/5	0.5S		CT Type	CT Ratio	HV - 1Amp	100/1		1000/1		120/1		150/1		200/1		25/1		250/1		30/1		300/1		400/1		50/1		500/1		600/1		75/1		800/1	HV - 5Amp	100/5	AEMO notes the respondent's comment and refers to the response in Table 1, item 2.
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9.	Origin Energy	No comment.																																																																																																	
10.	PLUS ES	<p>PLUS ES seeks clarification on what the continuum process would be once these enumerations are implemented.</p> <p>How would the introduction of new enumerations be included in the existing list and how validations would be applied until the new fields were introduced?</p> <p>The more complex the scenarios and combinations – which belong in MC/MPB asset management systems – the greater the potential to cause data validation issues.</p> <p>For the above reasons and the mitigation of potential complexity, PLUS ES recommends that an 80-20 or 90-10 rule is applied and then a field is allowed for the ‘exception’ cases. Participants can always follow up with the MPB for further details. At least, with this option the bulk of the administrative effort has been mitigated.</p>	AEMO notes the respondent’s comment and refers to the response in Table 1, item 2.																																																																																																
11.	Powermetric Metering	Please see list of Powermetric’s minimum requirements included in the submission.	AEMO notes the respondent’s comment and refers to the response in Table 1, item 2.																																																																																																



No.	Consulted person	Respondent Comments	AEMO response
12.	Red Energy and Lumo Energy	No comment at this time.	
13.	Tasmanian Networks Pty. Ltd.	TasNetworks have no proposed further additions for these enumerated lists.	AEMO notes the respondent's support for the proposed list.
14.	United Energy	United Energy supports the list proposed by AEMO.	AEMO notes the respondent's support for the proposed list.



**Table 2 Proposed Changes in MSATS Procedures – CATS**

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
1.	2.2 (r)	AGL	<p>AGL questions the placing of the shared fuse obligation in the MSATS CATS procedures and the proposed timings to notify parties, not obligations to update MSATS.</p> <p>The AEMC Final Determination and Rule specified the LNSP be notified of a Shared Fuse Arrangement ‘as soon as practicable’ in the Metrology Procedures, not the CATS Procedures .</p> <p>While it has been proposed via the MSATS consultation to include an enumerated flag in MSATS, there is currently no defined process for the notification of the LNSP.</p> <p>If the process is determined to be aligned to the request for isolation, then that is appropriate notification to the LNSP, and the obligation to update MSATS would site with the LNSP, and would be best served by updating MSATS after the meter exchange, when or if the flag requires updating.</p> <p>If the notification of a Shared Fuse is via MSATS, then two business days may make any meter exchange process unnecessarily cumbersome. If the notification is via B2B, then there should be no obligation in the CATS Procedures.</p> <p>AGL would suggest that until the process for managing shared fuses is resolved, that there should be no amendment to the CATS Procedures.</p>	<p>AEMO has included all obligations relevant to the Shared Fuse Arrangements into the Metrology Procedure Part A as specified in the AEMC National Electricity Amendment (Introduction of metering coordinator planned interruptions) Rule 2020 No 7, however some obligations were also added to the MSATS Procedure CATS for the clarity and the completeness of the different roles’ obligations when it comes to shared fuse arrangements. The MSATS Procedure CATS already includes obligations for roles where the obligation is implemented through other Retail Electricity Procedures and have been added to the MSATS Procedure CATS for awareness and completeness.</p> <p>AEMO notes that it is up to the FRMP, MC, and LNSP to agree on a process for communicating the Shared Fuse Arrangement information between them. If B2B is the chosen communication method and B2B changes are required then this should be raised to the IEC via an ICF.</p> <p>AEMO also notes some respondents have provided feedback around the use of B2B transactions for Shared Fuse Arrangement notification, AEMO intends to collate the relevant feedback and provide this to the IEC. This communications solution is outside of MSATS, so will be not be delivered as part of this MSDR consultation.</p>



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
2.	2.2 (r)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
3.	2.2 (r)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
4.	2.2 (r)	Ausgrid	No Comment	
5.	2.2 (r)	AusNet Services (including Mondo)	No Comment	
6.	2.2 (r)	Energy Queensland	We have no comment on this change.	
7.	2.2 (r)	EnergyAustralia	EnergyAustralia support the drafting; however, do not support this obligation being inserted in the CATS procedures, as the AEMC's final determination deemed the obligations (to notify the LNSP 'as soon as practicable') were to be in the Metrology Procedures.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
8.	2.2 (r)	Intellihub	<p>Assuming that the Shared Isolation Point Flag is the intended mechanism for advising participants of the existence of a Shared Fuse arrangement, the mechanism for the FRMP to advise the LNSP of the Shared Fuse arrangement doesn't seem to exist within the defined CATS processes.</p> <p>CATS transactions exist for the LNSP and ENM to advise others of the value to this flag (based on CATS requests for the creation or changing of NMIs), however there are none of these defined for the FRMP, providing them no mechanism to do so. Hence the requirement that they advise the LNSP within 2 days should not be included until such a mechanism exists.</p> <p>If the Shared Isolation Point Flag is not the only mechanism for advising participants of Shared Fuse arrangements, then this mechanism should be well defined before implementing the requirement. Certainly there appears to be no defined mechanism for FRMPs to meet this obligation.</p>	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
9.	2.2 (r)	Origin Energy	Origin Energy suggest as FRMP's may want to perform further analysis once becoming aware of a shared fuse site, the timeframe of "2 business days" would not be sufficient. This is to ensure that all relevant information is gathered before providing to the LNSP. Suggestion to remove the requirement of "2 business days" and replacing with "as soon as practicable but no more than 5 business days".	AEMO agrees with the respondent's comment and proposal to change the notification timeframe from "2 business days" to "as soon as practicable but no more than 5 business days" and will make the necessary changes to the MSATS Procedure CATS.
10.	2.2 (r)	PLUS ES	As per AEMO's assessment in the draft report and determination: AEMO notes the majority preference for the use of B2B transactions. AEMO intends to collate the relevant feedback and provide this to the IEC. This communications solution is outside MSATS, so will be not be delivered as part of this MSDR consultation.  PLUS ES proposes that this clause is then removed from the CATS procedures and captured in the metrology procedure as part of a process and/or in the appropriate B2B procedure document.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
11.	2.2 (r)	Red Energy and Lumo Energy	The timeframe proposed in the final determination for the 'Introduction of Metering Coordinator Planned Interruptions' provides for information to be updated 'as soon as practicable'. As a result, Red and Lumo strongly object to this addition and propose it be removed: (r)Notify the LNSP of any connection point that has a Shared Fuse Arrangement within two business days of becoming aware of the Shared Fuse Arrangements.  A retailer will notify the LNSP via a B2B transaction, requesting it to perform a 'temporary isolation group supply'.  On that basis, the retailer does not also need to advise the LNSP via a CATS transaction. Moreover, as it already is an obligation in the Metrology Procedures, it does not need to be duplicated into the CATS Procedures.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
12.	2.2 (r)	Vector Metering	<p>We note that rule change related to shared fusing requires AEMO to update the Metrology procedures so that DNSP's are required to capture Shared fuse information and that other participants are required to advise the DNSP of the presence of Shared fuse arrangements as soon as practical.</p> <p>We query</p> <ul style="list-style-type: none"> <li>•why is this clause in the CATS procedures? Shouldn't it be in the Met. Procedure?</li> <li>•Industry preference is for a B2B solution as the means for notification of Share fusing arrangements to the DNSP. It is premature to discuss obligations regarding timeliness until that process has been determined. At this point where this is no agreed process two days appears to be more onerous than 'as soon as practical'.</li> </ul> <p>Note: It is unlikely that the FRMP will become aware of a shared fuse at a site independently of the MPB who attended the site. For efficiency, any obligation added to the metrology procedure should allow for the MPB to notify the LNSP directly.</p>	<p>AEMO notes the respondent's comment and refers to the response in Table 2, item 1 and item 9.</p> <p>AEMO agrees with the respondent's comment that MPBs are likely to become aware of shared fuse arrangements as they attend sites, and hence AEMO will add an obligation in the Metrology Procedure Part A and the MSATS Procedure CATS on the MPB to notify the MC and/or the FRMP when they become aware of shared fuse arrangements.</p>
13.	2.2(s)	AGL	See comments relating to 2.2(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
14.	2.2(s)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
15.	2.2(s)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
16.	2.2(s)	Ausgrid	No Comment	
17.	2.2(s)	AusNet Services (including Mondo)	No Comment	
18.	2.2(s)	Energy Queensland	We have no comment on this change.	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
19.	2.2(s)	EnergyAustralia	EnergyAustralia support the drafting; however, do not support this obligation being inserted in the CATS procedures, as the AEMC's final determination deemed the obligations (to notify the LNSP 'as soon as practicable') were to be in the Metrology Procedures.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
20.	2.2(s)	Intellihub	See 2.2 (r) above	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
21.	2.2(s)	Origin Energy	Origin Energy request industry to define what "changes" would be relevant to this clause. For example, once a NMI has a shared isolator the remaining sites will still need to be treated as a shared fuse. Participants will need to build their systems to support this change so important to understand what these changes entail.	AEMO notes that changes of the shared fuse arrangements are defined by the Shared Isolation Point flag values, and that those definitions provide details of the nature of the changes to the connection arrangements that can be made.
22.	2.2(s)	PLUS ES	As per AEMO's assessment in the draft report and determination: AEMO notes the majority preference for the use of B2B transactions. AEMO intends to collate the relevant feedback and provide this to the IEC. This communications solution is outside MSATS, so will be not be delivered as part of this MSDR consultation. PLUS ES proposes that this clause is then removed from the CATS procedures and captured more relevantly in the metrology procedure as part of a process and/or in the appropriate B2B procedure document.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
23.	2.2(s)	Red Energy and Lumo Energy	Object to this clause being added. See feedback as per 2.2(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
24.	2.2(s)	Vector Metering	<p>We note that rule change related to shared fusing requires AEMO to update the Metrology procedures so that DNSP's are required to capture Shared fuse information and that other participants are required to advise the DNSP of the presence of Shared fuse arrangements as soon as practical.</p> <p>We query</p> <ul style="list-style-type: none"> <li>•why is this clause in the CATS procedures? Shouldn't it be in the Met. Procedure?</li> <li>•Industry preference is for a B2B solution as the means for notification of Share fusing arrangements to the DNSP. It is premature to discuss obligations regarding timeliness until that process has been determined. At this point where this is no agreed process two days appears to be more onerous than 'as soon as practical'.</li> </ul> <p>Note: It is unlikely that the FRMP will become aware of a shared fuse at a site independently of the MPB who attended the site. For efficiency, any obligation added to the metrology procedure should allow for the MPB to notify the LNSP directly.</p>	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
25.	2.3(r)	AGL	<p>See comments per 2.2(r)</p> <p>As stated previously, until the process for managing shared fuse arrangements are finalised, there should be no obligation placed within the CATS Procedures.</p> <p>The proposed obligations [2.3(r) to 2.3(t)] assume that updating MSATS is the only action happening. If a shared fuse is identified as part of a meter exchange, then updating MSATS within 2 business days will likely lead to MSATS flags being changed 3 times over a short period of time for no real benefit to industry. It would be more efficient for the LNSP to update MSATS to the final flag following the installation of the new isolation or the failure to install additional isolation. The affected participants are already aware of the issue and therefore updating MSATS through the course of a meter exchange will simply create multiple transactions across industry which will not be used.</p>	<p>AEMO notes the respondent's comment and refers to the response in Table 2, item 1.</p> <p>AEMO expects only the outcome needs to be updated for the Shared Fuse Arrangement. AEMO will be changing the timeframe for updating the shared fuse arrangement from "2 business days" to "as soon as practicable but no more than 5 business days", this should provide enough time for the LNSP to update the Shared Isolation Point Flag based on the final outcome and not through the course of the meter exchange.</p>



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
26.	2.3(r)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
27.	2.3(r)	Ausgrid	Agree	AEMO notes the respondent's support for the proposed change.
28.	2.3(r)	AusNet Services (including Mondo)	No Comment	
29.	2.3(r)	CitiPower Powercor	CitiPower Powercor strongly disagrees with the obligation to update shared fusing information within two business days. We believe five business days is appropriate as there is no urgency in this information being published. We recommend that timeframes stated in all relevant clauses be updated from two to five business days. Processing of this information is likely to be manual and the timeframe being extended to five business days will allow sufficient time to update the information.	AEMO agrees with the respondent's comment and refers to the response in Table 2, item 9.
30.	2.3(r)	Energy Queensland	Energex and Ergon Energy note that the changes do not indicate 'how' the information related to Shared Fuse Arrangements is to be provided to the LNSP. Energex's and Ergon Energy's preference is to receive this information via appropriate B2B transactions.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
31.	2.3(r)	EnergyAustralia	EnergyAustralia support the drafting; however, do not support this obligation being inserted in the CATS procedures, as the AEMC's final determination deemed the obligations (to notify the LNSP 'as soon as practicable') were to be in the Metrology Procedures.	AEMO notes that the obligation is added to Metrology Procedure Part A, however, it is also added to the MSATS Procedure CATS as the LNSP notifications and the updating of the Shared Isolation Point Flag will happen through the MSATS transactions. This clause is not about the notification to the LNSP, it is about the LNSP obligations to update and maintain the Shared Fuse Arrangements in MSATS.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
32.	2.3(r)	Intellihub	Noted Although see comments for 2.2 (r) and 2.6 (k) Until the mechanism for advising of Shared Fuse Arrangements is fully defined for each responsible participant, this obligation should not be added to any of them.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
33.	2.3(r)	Origin Energy	Noted	
34.	2.3(r)	Red Energy and Lumo Energy	No comment at this time.	
35.	2.3(r)	Tasmanian Networks Pty. Ltd.	TasNetworks believe this should be in-line with other standing data and have an allowance of 5 business days to update.	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
36.	2.3(r)	United Energy	United Energy strongly disagrees with the obligation to update shared fusing information within two business days. We believe five business days is appropriate as there is no urgency in this information being published. We recommend that timeframes stated in all relevant clauses be updated from two to five business days. Processing of this information is likely to be manual and the timeframe being extended to five business days will allow enough time to update the information.	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
37.	2.3(r)	Vector Metering	We do not believe there is a need to differentiate between NMI's are part of a shared fuse installation but can be isolated ( 'I' ) and NMI's that are not on a shared fuse ( 'N' ). Both these Meters are not subject to shared fusing requirements and will be treated the same. Vector recommends values should be 'S'hared fusing, 'I'solated fusing and 'U'nknown;	AEMO believes that participants will know the sites that have no Shared Fuse Arrangements and hence they can set the Shared Isolation Point Flag to 'N', unless they have no information about the site then they can set the Shared Isolation Point Flag to 'U' for Unknown. As a result, AEMO retains its position on keeping the Shared Isolation Point Flag values of 'Y', 'I', 'N', and 'U'.





No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
38.	2.3(s)	AGL	See comments per 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 25.
39.	2.3(s)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
40.	2.3(s)	Ausgrid	Agree	AEMO notes the respondent's support for the proposed change.
41.	2.3(s)	AusNet Services (including Mondo)	No Comment	
42.	2.3(s)	CitiPower Powercor	CitiPower Powercor disagrees with adding a new flag value of 'I' and recommends this clause be removed. We believe the information captured about shared fuse arrangements should be kept simple and adding an additional flag adds complexity and creates the potential for error. Users of the field only need to understand 2 things – the NMI is either impacted by a shared isolation scenario (therefore the value of "Y" provides this information) or it is not impacted (therefore value of "N" provides this information).	AEMO believes that retaining the Shared Isolation Point Flag value of 'I' will ensure that any work that is carried out on an individually isolated meter will be more efficient than having to go through a whole shared fuse notification process of up to 30 days.
43.	2.3(s)	Energy Queensland	Energex and Ergon Energy note that the changes do not indicate 'how' the information related to Shared Fuse Arrangements is to be provided to the LNSP. Energex's and Ergon Energy's preference is to receive this information via appropriate B2B transactions.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
44.	2.3(s)	EnergyAustralia	EnergyAustralia support the drafting; however, do not support this obligation being inserted in the CATS procedures, as the AEMC's final determination deemed the obligations (to notify the LNSP 'as soon as practicable') were to be in the Metrology Procedures.	AEMO notes the respondent's comment and refers to the response in Table 2, item 31.
45.	2.3(s)	Intellihub	See comment for 2.3 (r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
46.	2.3(s)	Origin Energy	Noted	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
47.	2.3(s)	Red Energy and Lumo Energy	No comment at this time.	
48.	2.3(s)	Tasmanian Networks Pty. Ltd.	TasNetworks believe this should be in-line with other standing data and have an allowance of 5 business days to update.	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
49.	2.3(s)	United Energy	United Energy disagrees with adding a new flag value of 'I' and recommends this clause be removed. We believe the information captured about shared fuse arrangements should be kept simple and adding an additional flag adds complexity and creates the potential for error. Users of the field only need to understand 2 things – the NMI is either impacted by a shared isolation scenario (therefore the value of "Y" provides this information) or it is not impacted (therefore value of "N" provides this information).	AEMO notes the respondent's comment and refers to the response in Table 2, item 42.
50.	2.3(s)	Vector Metering	See 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 37.
51.	2.3(t)	AGL	See comments per 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 25.
52.	2.3(t)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
53.	2.3(t)	Ausgrid	This clause contradicts clause 14, Drawing 3 in the proposed Metrology Procedure Part A.	AEMO notes that all Shared Isolation Point Flags of 'I' do not negate the shared fusing at the network level unless the shared fusing is broken, then the Shared Isolation Point Flag will be set to 'N'. An individual fusing of each NMI is required before a LNSP can set its Shared Isolation Point Flag to 'N' as per Diagram 4 in the Metrology Procedure Part A.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
54.	2.3(t)	AusNet Services (including Mondo)	No Comment	
55.	2.3(t)	CitiPower Powercor	See comment in 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
56.	2.3(t)	Energy Queensland	Energex and Ergon Energy note that the changes do not indicate 'how' the information related to Shared Fuse Arrangements is to be provided to the LNSP. Energex's and Ergon Energy's preference is to receive this information via appropriate B2B transactions.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
57.	2.3(t)	EnergyAustralia	EnergyAustralia support the drafting; however, do not support this obligation being inserted in the CATS procedures, as the AEMC's final determination deemed the obligations (to notify the LNSP 'as soon as practicable') were to be in the Metrology Procedures.	AEMO notes the respondent's comment and refers to the response in Table 2, item 31.
58.	2.3(t)	Intellihub	See comment for 2.3 (r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
59.	2.3(t)	Origin Energy	Origin Energy suggest that once all sites as part of a shared fuse become independently fused "I" and the shared fuse arrangement no longer exists the LNSP updates all sites to "N".	AEMO notes the respondent's comment and refers to the response in Table 2, item 53.
60.	2.3(t)	Red Energy and Lumo Energy	No comment at this time.	
61.	2.3(t)	Tasmanian Networks Pty. Ltd.	TasNetworks believe this should be in-line with other standing data and have an allowance of 5 business days to update.	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
62.	2.3(t)	United Energy	See comment in 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
63.	2.3(t)	Vector Metering	See 2.3(r). We recommend values should be 'S','I','U'.	AEMO notes the respondent's comment and refers to the response in Table 2, item 37.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
64.	2.6(k)	AGL	See comments per 2.2(r) and 2.3 (r).	AEMO notes the respondent's comment and refers to the response in Table 2, item 1 and item 25.
65.	2.6(k)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
66.	2.6(k)	Ausgrid	No Comment	
67.	2.6(k)	AusNet Services (including Mondo)	No Comment	
68.	2.6(k)	CitiPower Powercor	See comment in 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
69.	2.6(k)	Energy Queensland	<p>Metering Dynamics notes that to adhere to this change updates will be required to MP and MC processes and methods for provision of required details agreed between the MC and LNSP.</p> <p>Energex and Ergon Energy note that the changes do not indicate 'how' the information related to Shared Fuse Arrangements is to be provided to the LNSP. Energex's and Ergon Energy's preference is to receive this information via appropriate B2B transactions.</p>	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
70.	2.6(k)	EnergyAustralia	EnergyAustralia support the drafting; however, do not support this obligation being inserted in the CATS procedures, as the AEMC's final determination deemed the obligations (to notify the LNSP 'as soon as practicable') were to be in the Metrology Procedures.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
71.	2.6(k)	Intellihub	<p>We believe that the responsibility for advising participants of Shared Fuse Arrangements should sit with the Metering Provider rather than the MC, since it is the MP who is the participant most likely to be at site, and therefore most aware of the details of the Fuse and wiring situation at the NMI.</p> <p>While the MC is responsible for co-ordinating the MP work, it is the MP which has first hand knowledge of the shared fuse arrangements at site.</p> <p>Also see comments for 2.2 (r)</p> <p>The currently defined CATS transaction have no mechanism for either the MC or MPB to advise other participants of the existence of the Shared Fuse Arrangement, as none of their CATS transaction currently cater for including the Shared Isolation Point Flag.</p>	AEMO notes that the rules puts the obligation on the MC and the FRMP and not on the MPB, however AEMO finds it reasonable to add an obligation on the MPB to notify MC and/or FRMP when they become aware of shared fuse arrangements. AEMO will add this obligation to the Metrology Procedure Part A and the MSATS Procedure CATS.
72.	2.6(k)	Origin Energy	See comments per 2.2(r).	AEMO notes the respondent's comment and refers to the response in Table 2, item 9.
73.	2.6(k)	PLUS ES	<p>As per AEMO's assessment in the draft report and determination: AEMO notes the majority preference for the use of B2B transactions. AEMO intends to collate the relevant feedback and provide this to the IEC. This communications solution is outside MSATS, so will be not be delivered as part of this MSDR consultation.</p> <p>PLUS ES proposes that this clause is then removed from the CATS procedures and captured in the metrology procedure as part of a process and/or in the appropriate B2B procedure document.</p>	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
74.	2.6(k)	Powermetric Metering	Powermetric is concerned about the inefficient and potentially confusing situation of both FRMP and MDP providing shared fused connection points information to the LNSP given the MPB obligation to also inform the FRMP of the same situations. Suggest a chain of communication from MPB to FRMP to LNSP.	AEMO notes the respondent's comment and refers to the response in Table 2, item 71.
75.	2.6(k)	Red Energy and Lumo Energy	Object to this clause being added. See feedback as per 2.2(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
76.	2.6(k)	United Energy	See comment in 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
77.	2.6(k)	Vector Metering	<p>We note that rule change related to shared fusing requires AEMO to update the Metrology procedures so that DNSP's are required to capture Shared fuse information and that other participants are required to advise the DNSP of the presence of Shared fuse arrangements as soon as practical.</p> <p>We query</p> <ul style="list-style-type: none"> <li>•why is this clause in the CATS procedures? Shouldn't it be in the Met. Procedure?</li> <li>•Industry preference is for a B2B solution as the means for notification of Share fusing arrangements to the DNSP. It is premature to discuss obligations regarding timeliness until that process has been determined. At this point where this is no agreed process two days appears to be more onerous than 'as soon as practical'.</li> </ul> <p>Note: It is unlikely that the MC will become aware of a shared fuse at a site independently of the MPB who attended the site. For efficiency, any obligation added to the metrology procedure should allow for the MPB to notify the LNSP directly.</p>	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
78.	2.6(l)	AGL	<p>See comments per 2.2(r) and 2.3 (r).</p> <p>Note – there is no 2.6(l) in the mark up.</p>	AEMO notes the respondent's comment and refers to the response in Table 2, item 1 and item 25.
79.	2.6(l)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
80.	2.6(l)	Ausgrid	No Comment	
81.	2.6(l)	AusNet Services (including Mondo)	No Comment	
82.	2.6(l)	CitiPower Powercor	See comment in 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
83.	2.6(l)	Energy Queensland	Metering Dynamics notes that to adhere to this change updates will be required to MP and MC processes and methods for provision of required details agreed between MC and LNSP.	AEMO notes the respondent's comment
84.	2.6(l)	EnergyAustralia	Assume this refers to 2.6 (j) EnergyAustralia support the drafting; however, do not support this obligation being inserted in the CATS procedures, as the AEMC's final determination deemed the obligations (to notify the LNSP 'as soon as practicable') were to be in the Metrology Procedures.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
85.	2.6(l)	Intellihub	See comments for 2.6(k) above. Please note that the label for 2.6(l) doesn't exist in the document, but is assumed to be the label after 2.6(k).	AEMO notes the respondent's comment and refers to the response in Table 2, item 71. AEMO will fix the labelling for 2.6(l).
86.	2.6(l)	Origin Energy	See comments per 2.2(s).	AEMO notes the respondent's comment and refers to the response in Table 2, item 21.
87.	2.6(l)	PLUS ES	As per AEMO's assessment in the draft report and determination: AEMO notes the majority preference for the use of B2B transactions. AEMO intends to collate the relevant feedback and provide this to the IEC. This communications solution is outside MSATS, so will be not be delivered as part of this MSDR consultation. PLUS ES proposes that this clause is then removed from the CATS procedures and captured in the metrology procedure as part of a process and/or in the appropriate B2B procedure document.	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
88.	2.6(l)	Powermetric Metering	Powermetric is concerned about the inefficient and potentially confusing situation of both FRMP and MDP providing shared fused connection points information to the LNSP given the MPB obligation to also inform the FRMP of the same situations. Suggest a chain of communication from MPB to FRMP to LNSP.	AEMO notes the respondent's comment and refers to the response in Table 2, item 71.
89.	2.6(l)	Red Energy and Lumo Energy	Object to this clause being added. See feedback as per 2.2(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
90.	2.6(l)	United Energy	See comment in 2.3(r)	AEMO notes the respondent's comment and refers to the response in Table 2, item 29.
91.	2.6(l)	Vector Metering	<p>We note that rule change related to shared fusing requires AEMO to update the Metrology procedures so that DNSP's are required to capture Shared fuse information and that other participants are required to advise the DNSP of the presence of Shared fuse arrangements as soon as practical.</p> <p>We query</p> <ul style="list-style-type: none"> <li>•why is this clause in the CATS procedures? Shouldn't it be in the Met. Procedure?</li> <li>•Industry preference is for a B2B solution to be established as the means for notification to the DNSP. It is premature to discuss obligations regarding timeliness until that process has been determined. At this point where this is no agreed process two days appears to be more onerous than 'as soon as practical'.</li> </ul> <p>Note: It is unlikely that the MC will become aware of a shared fuse at a site independently of the MPB who attended the site. For efficiency, any obligation added to the metrology procedure should allow for the MPB to notify the LNSP directly.</p>	AEMO notes the respondent's comment and refers to the response in Table 2, item 1.
92.	Section 2.9	PLUS ES	<p>AEMO will be populating the following fields but they have not been included in the AEMO obligations of section 2.9:</p> <ul style="list-style-type: none"> <li>• MeterMalfunctionExemptionNumber</li> <li>• MeterMalfunctionExemptionExpiryDate</li> </ul>	As per AEMO's response to the second draft determination, AEMO will be adding the obligations for updating the Meter Malfunction Exemption fields at the time of the exemption process automation work and will consult on these changes.
93.	2.9(k)	AGL	<p>Noted. And 2.2 (f).</p> <p>However, unlike many other CATS obligations, these ones don't seem to have any timing obligations associated with them. This information is being included in MSATS to provide efficiencies across both retail, MC and Network businesses, therefore it would be appropriate that these fields are updated promptly.</p>	AEMO notes that clause 2.1(i) in the MSATS Procedure CATS covers the timing obligation for updating the fields which is 10 business days.





No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
94.	2.9(k)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
95.	2.9(k)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
96.	2.9(k)	Ausgrid	No Comment	
97.	2.9(k)	AusNet Services (including Mondo)	Clarify in the procedure when a DPID and GNAF PID are applicable, either by referencing the contents of another section/paragraph or another document/glossary/procedure.	AEMO notes the respondent's comment and refers to the response in Table 2, item 93.
98.	2.9(k)	Energy Queensland	We have no comment on this change.	
99.	2.9(k)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
100.	2.9(k)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
101.	2.9(k)	Origin Energy	Origin Energy seek clarification on how AEMO will define "where it is applicable"? How will AEMO identify where there is a mismatch?	'Where applicable' means when AEMO finds the information missing or needs to be updating. AEMO identifies the mismatch through the quarterly analysis.
102.	2.9(k)	Red Energy and Lumo Energy	No comment at this time.	
103.	9.1.4	AGL	Noted	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
104.	9.3.4(c)	AGL	<p>Noted.</p> <p>However, as the participant may not be responsible for some items of information (egg Meter Serial ID, meter manufacturer), AGL suggests that the following sentence be amended:</p> <p style="padding-left: 40px;">Populate a Change Request with the following information as applicable:</p> <p>or the Meter Serial ID / Manufacturer should be removed from this requirements.</p> <p>AGL suggest that this will become especially problematic, where commercial MCs have been made responsible for network meters, or where LNSPs are no longer responsible for meters. AGL believes that this should be an MP responsibility.</p> <p>Also, as no meter exists for a UMS site (both contestable and non-contestable) will a meter number be defined for UMS connections. Noting that there is discussion in using network sampling devices for UMS loads, then it would be appropriate for those devices to be identified if needed.</p>	<p>AEMO notes that CR2500/2501 is an LNSP specific CR for Creating a NMI with metering installation details and NMI datastream details. The LNSP may choose to use this CR if they have all the metering installation and NMI datastream available at the time of NMI creation, otherwise they can use other CRs like CR2000/2001 where they don't have to provide metering installation and datastream information if they don't have it at NMI creation time. There is also the option of using the DUMMY meter value for unmetered supplies as specified in the Standing Data for MSATS document.</p>
105.	9.3.4(c)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
106.	9.3.4(c)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
107.	9.3.4(c)	Ausgrid	<p>In NSW as the LNSP does not make the connection to the network (the ASP does) and this is the service connection not the metering point location, therefore the LNSP cannot populate the GPS coordinates, this would need to be completed by the MP when installing the meter.</p> <p>In addition, at the time of the NMI creation and publication to MSATS as Greenfield status, the GPS coordinates are not known as the work has not yet been conducted. The LNSP cannot populate the GPS coordinates ant the new NMI creation stage.</p> <p>Shared isolation point flag is not required as new NMIs would not have a shared isolation point.</p> <p>Meter Serial ID, meter model and meter manufacturer, how is the LNSP supposed to publish this information when the meter has not yet been installed?</p> <p>Move the publication of this date to Clause (e) (ie. may populate not must populate)</p>	<p>AEMO notes that CR2500 cannot be used for Greenfield sites as this CR may only be used by the LNSP when they have the metering installation details and NMI datastream details at the time of the NMI creation.</p>
108.	9.3.4(c)	AusNet Services (including Mondo)	<p>ConnectionConfiguration – Clarification on whether the phases (2nd char) is based upon the meter installed (i.e. 1 -3 phase) or based upon the network connection to the site and whether the site is capable of having, for example, 3 phase or what is actually used on the site (which would be an MC obligation).</p> <p>GPS Co-ordinates will be populated with best estimate values (site location) where the site has “No Access”.</p> <p>GPS Co-ordinates for existing sites should be populated by the MC and not the LNSP, since MCs can be the contestable party and are subjected to more commercial pressures, therefore its better regulatory practice to assign the responsibility to the MC.</p> <p>Regulated businesses should not cross-subsidise contestable businesses. We reluctantly agree to populating GPS Co-ordinates for all NMIs (incl existing sites), however this should be an MC/MP obligation and not the LNSP.</p> <p>Rectify section numbering, under 9.3.4 (a,b,c) are repeated.</p>	<p>AEMO notes that Connection Configuration is about the network capability and not the meter capability, so it is related to what participants have agreed to in their network connections agreement.</p> <p>GPS coordinates are the MPB’s obligation, not the LNSP’s obligation, as the CRs used to update them are CRs raised by the MPB. Networks have accredited MPB businesses and this is the role that has the obligation to provide the GPS coordinates.</p> <p>AEMO will fix the numbering for 9.3.4.</p>

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
109.	9.3.4(c)	Energy Queensland	We have no comment on this change.	
110.	9.3.4(c)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
111.	9.3.4(c)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
112.	9.3.4(c)	Origin Energy	Noted.	
113.	9.3.4(c)	PLUS ES	<ul style="list-style-type: none"> <li>Bullet point numbering sequence incorrect. (a) (b) (c) have been duplicated</li> <li>Space between i and t in Nominate itself as the New LNSP</li> </ul>	AEMO agrees with the respondent's comment, and will fix the clause numbering.
114.	9.3.4(c)	Red Energy and Lumo Energy	No comment at this time.	
115.	9.3.4(e)	AGL	<p>Noted.</p> <p>However, as the participant may not be responsible for some items of information (eg CT/VT information), AGL suggests that the following sentence be amended:</p> <p style="padding-left: 40px;">Populate a Change Request with the following information as applicable:</p>	AEMO notes that the fields are under the 'New LNSP may' section which means that it only needs to be populated where applicable.
116.	9.3.4(e)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
117.	9.3.4(e)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
118.	9.3.4(e)	Ausgrid	LNSP cannot publish Transformer details for a new NMI (greenfield) as it has not yet been installed, and the LNSP cannot install meters.	AEMO notes the respondent's comment and refers to the response in Table 2, item 107.
119.	9.3.4(e)	AusNet Services (including Mondo)	No Comment	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
120.	9.3.4(e)	Energy Queensland	We have no comment on this change.	
121.	9.3.4(e)	EnergyAustralia	EnergyAustralia support the removal.	AEMO notes the respondent's support for the proposed change.
122.	9.3.4(e)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
123.	9.3.4(e)	Origin Energy	Noted.	
124.	9.3.4(e)	Red Energy and Lumo Energy	No comment at this time.	
125.	9.4.4(c)	AGL	Noted. However, as the participant may not be responsible for some items of information (meter information), AGL suggests that the following sentence be amended: Populate a Change Request with the following information as applicable: AGL believes that this should be an MP responsibility.	AEMO notes the respondent's comment and refers to the response in Table 2, item 104.
126.	9.4.4(c)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
127.	9.4.4(c)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
128.	9.4.4(c)	Ausgrid	No Comment	
129.	9.4.4(c)	AusNet Services (including Mondo)	Rectify section numbering, under 9.4.4 (a,b,c) are repeated.	AEMO agrees with the respondent's comment, and will fix the clause numbering.
130.	9.4.4(c)	Energy Queensland	We have no comment on this change.	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
131.	9.4.4(c)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
132.	9.4.4(c)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
133.	9.4.4(c)	Origin Energy	Noted.	
134.	9.4.4(c)	Red Energy and Lumo Energy	No comment at this time.	
135.	9.4.4(d)	AGL	Noted. However, as the participant may not be responsible for some items of information (eg CT/VT information), AGL suggests that the following sentence be amended: Populate a Change Request with the following information as applicable: AGL believes that this should be an MP responsibility.	AEMO notes the respondent's comment and refers to the response in Table 2, item 115.
136.	9.4.4(d)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
137.	9.4.4(d)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
138.	9.4.4(d)	Ausgrid	No Comment	
139.	9.4.4(d)	AusNet Services (including Mondo)	AusNet Services see no value is updating existing sites with the "House To" field, since GPS Co-ords is mandatory and more accurate. "House To" should only be populated for new sites going forward as part of structured addresses. If 'House To' is mandated for existing sites then we request that a minum transition period of 36 months inline with GPS Co-ords.	AEMO notes that "House To" field is a required field and not mandatory, hence it only needs to be provided if available.
140.	9.4.4(d)	Energy Queensland	We have no comment on this change.	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
141.	9.4.4(d)	EnergyAustralia	EnergyAustralia support the removal.	AEMO notes the respondent's support for the proposed change.
142.	9.4.4(d)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
143.	9.4.4(d)	Origin Energy	Noted.	
144.	9.4.4(d)	Red Energy and Lumo Energy	No comment at this time.	
145.	10.1.4(c)	AGL	Noted	
146.	10.1.4(c)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
147.	10.1.4(c)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
148.	10.1.4(c)	Ausgrid	No Comment	
149.	10.1.4(c)	AusNet Services (including Mondo)	No comment	
150.	10.1.4(c)	Energy Queensland	Metering Dynamics notes that to adhere to this change updates will be required to MP processes and systems, in line with required MSATS schema changes.	AEMO notes the respondent's comment.
151.	10.1.4(c)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
152.	10.1.4(c)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
153.	10.1.4(c)	Origin Energy	Noted.	
154.	10.1.4(c)	Red Energy and Lumo Energy	No comment at this time.	

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
155.	10.1.4(c)	Vector Metering	<p>GPS Coordinates have a transition period of 36 months so these fields cannot be mandatory and should be in 10.1.4(e) until the transition period expires.</p> <p>Note: MPB may not have put the required changes into their field devices and systems and processes by the effective date of the procedures so will need to update msats later but within the 36 months...</p>	<p>AEMO notes the respondent's comment. AEMO has revised the GPS Coordinates requirements to take into account various submissions on costs and benefits as follows:</p> <ul style="list-style-type: none"> <li>For NMI's with manually read meters: REQUIRED for 36 months from effective date of these Procedures, MANDATORY thereafter.</li> <li>For NMI's with remotely read meters: MANDATORY for new NMI's established from the effective date of these Procedures and all NMI's when they have a physical field site visit, REQUIRED for all other NMI's.</li> <li>Not Used for NMIS for Type 7 and NCONUML.</li> </ul> <p>AEMO notes the transition period does not apply for clause 10.1.4(c), as the information in CRs3000/3001 is for new meters, the transition period only applies to existing meters.</p>
156.	10.1.4(e)	AGL	Noted	
157.	10.1.4(e)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
158.	10.1.4(e)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
159.	10.1.4(e)	Ausgrid	No Comment	
160.	10.1.4(e)	AusNet Services (including Mondo)	No comment	





No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
161.	10.1.4(e)	Energy Queensland	We have no comment on this change.	
162.	10.1.4(e)	EnergyAustralia	EnergyAustralia support the removal.	AEMO notes the respondent's support for the proposed change.
163.	10.1.4(e)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
164.	10.1.4(e)	Origin Energy	Noted.	
165.	10.1.4(e)	Red Energy and Lumo Energy	No comment at this time.	
166.	10.2.4(g)	AGL	Noted	
167.	10.2.4(g)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
168.	10.2.4(g)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
169.	10.2.4(g)	Ausgrid	No Comment	
170.	10.2.4(g)	AusNet Services (including Mondo)	No comment	
171.	10.2.4(g)	Energy Queensland	Metering Dynamics notes that to adhere to this change updates will be required to MP processes and systems, in line with required MSATS schema changes.	AEMO notes the respondent's comment.
172.	10.2.4(g)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
173.	10.2.4(g)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
174.	10.2.4(g)	Origin Energy	Noted.	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
175.	10.2.4(g)	Red Energy and Lumo Energy	No comment at this time.	
176.	10.3.4(d)	AGL	MPB requirement – Noted for Meter Model and Manufacturer.	AEMO notes the respondent's comment.
177.	10.3.4(h)	AGL	Noted	
178.	10.3.4(h)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
179.	10.3.4(h)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
180.	10.3.4(h)	Ausgrid	GPS coordinates may not be available as it may have been a third party (eg. ASP) removing the metering, for example if a customer removes a controlled load Type 5 or 6 meter due to it being no longer required.	The MPB has the obligation to provide the GPS Coordinates information, and AEMO notes that for this CR the GPS Coordinates under the 'may' section of this CR making them optional in the CR and only need to be provided when available.
181.	10.3.4(h)	AusNet Services (including Mondo)	No comment	
182.	10.3.4(h)	Energy Queensland	Metering Dynamics notes that to adhere to this change updates will be required to MP processes and systems, in line with required MSATS schema changes.	AEMO notes the respondent's comment.
183.	10.3.4(h)	EnergyAustralia	EnergyAustralia support the removal.	AEMO notes the respondent's support for the proposed change.
184.	10.3.4(h)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
185.	10.3.4(h)	Origin Energy	Noted.	
186.	10.3.4(h)	Red Energy and Lumo Energy	No comment at this time.	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
187.	10.4.4(d)	AGL	AGL questions why the MC has an obligation placed on it to maintain the meter manufacturer and model number, when the responsibility should sit with the Meter Provider.  AGL suggest that this will become especially problematic, where commercial MCs have been made responsible for network meters.	AEMO notes that CR3080/3081 can only be raised by the MC to provide metering installations details. If the MC has the required metering installation details then they can use this CR to provide the details which will include information such as meter manufacturer and meter model.
188.	10.4.4(d)	Intellihub	Noted  As it is the current MPB which has primary responsibility for the metering installation and will have the details of the meters physically installed, we suggest that this obligation should fall on the current MPB not the MC.	AEMO notes the respondent's comment and refers to the response in Table 2, item 187.
189.	10.4.4(d)	Red Energy and Lumo Energy	No comment at this time.	
190.	10.4.4(g)	AGL	Noted	
191.	10.4.4(g)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
192.	10.4.4(g)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
193.	10.4.4(g)	Ausgrid	GPS coordinates may not be available as it may have been a third party (eg. ASP) removing the metering, for example if a customer removes a controlled load Type 5 or 6 meter due to it being no longer required.	AEMO notes the respondent's comment and refers to the response in Table 2, item 180.
194.	10.4.4(g)	AusNet Services (including Mondo)	As above comments	AEMO notes the respondent's comment.
195.	10.4.4(g)	Energy Queensland	Metering Dynamics notes that to adhere to this change updates will be required to MP processes and systems, in line with required MSATS schema changes.	AEMO notes the respondent's comment.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
196.	10.4.4(g)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
197.	10.4.4(g)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
198.	10.4.4(g)	Origin Energy	Both the MPB and the MC "may" populate the CR with the information listed where there are Mandatory Fields e.g MeterUse. Origin Energy suggest one participant needs to be obligated to populate the mandatory fields. If the MC 'may' populate the CR/field, then the MPB 'must' populate the field.	AEMO notes that CR 3080/3081 are MC specific CRs and the fields under 10.4.4(g) are optional, hence they fall under the 'may' clause, the MPB has the same obligations but in their MPB specific CRs like CR3050/3051 to update those fields. MCs only need to use CR3080/3081 when the MC has all information required to update the required metering installation details.
199.	10.4.4(g)	PLUS ES	Possible misalignment: CR3080, CR3081 have an initiating role of the MC NMI Standing Data document does not have the MC as a party to provide against most the fields included in these CRs .	AEMO notes the respondent's comment and refers to the response in Table 2, item 187.
200.	10.4.4(g)	Red Energy and Lumo Energy	No comment at this time.	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
201.	10.5.4(c)/(d)	AGL	<p>Noted.</p> <p>However, as the participant may not be responsible for some items of information, AGL suggests that the following sentence be amended:</p> <p style="padding-left: 40px;">Populate a Change Request with the following information as required:</p> <p>AGL questions why the MC has an obligation placed on it to maintain the meter manufacturer and model number, GPS coordinates etc when the responsibility should sit with the Meter Provider.</p> <p>As a general comment across these changes, AGL suggests that the obligation lie with the participant most closely associated with the asset, as this will become especially problematic, where commercial MCs have been made responsible for network meters, and the network is the Meter Provider, and the network Meter Provider should be responsible for the maintenance and updating of this information.</p>	AEMO notes that CR3090/3091 can only be raised by the MC to provide metering installations details. If the MC has the required metering installation details then they can use this CR to provide the details which will include information such as meter manufacturer and meter model.
202.	10.5.4(d)	Intellihub	<p>Noted</p> <p>See comments under 10.4.4 (d)</p>	AEMO notes the respondent's comment and refers to the response in Table 2, item 201.
203.	10.5.4(d)	Red Energy and Lumo Energy	No comment at this time.	
204.	10.5.4(g)	AGL	Noted. See above comments.	AEMO notes the respondent's comment.
205.	10.5.4(g)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
206.	10.5.4(g)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
207.	10.5.4(g)	Ausgrid	No Comment	
208.	10.5.4(g)	AusNet Services (including Mondo)	As above comments	AEMO notes the respondent's comment.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
209.	10.5.4(g)	Energy Queensland	Metering Dynamics notes that to adhere to this change updates will be required to MP processes and systems, in line with required MSATS schema changes.	AEMO notes the respondent's comment.
210.	10.5.4(g)	EnergyAustralia	EnergyAustralia support the removal.	AEMO notes the respondent's support for the proposed change.
211.	10.5.4(g)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
212.	10.5.4(g)	Origin Energy	See comments per 10.4.4(g).	AEMO notes the respondent's comment and refers to the response in Table 2, item 198.
213.	10.5.4(g)	PLUS ES	Possible misalignment: CR3090, CR3091 have an initiating role of the MC NMI Standing Data document does not have the MC as a party to provide against most the fields included in these CRs .	AEMO notes the respondent's comment and refers to the response in Table 2, item 201.
214.	10.5.4(g)	Red Energy and Lumo Energy	No comment at this time.	
215.	12.3.4 (d)	AusNet Services (including Mondo)	No comment	
216.	15.1.4(f)	AGL	Noted	
217.	15.1.4(f)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
218.	15.1.4(f)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
219.	15.1.4(f)	Ausgrid	No Comment	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
220.	15.1.4(f)	AusNet Services (including Mondo)	No comment	
221.	15.1.4(f)	Energy Queensland	We have no comment on this change.	
222.	15.1.4(f)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
223.	15.1.4(f)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
224.	15.1.4(f)	Origin Energy	Noted	
225.	15.1.4(f)	Red Energy and Lumo Energy	No comment at this time.	
226.	15.1.4(f)	Tasmanian Networks Pty. Ltd.	Can AEMO please clarify whether participants should expect to receive 5100/5101 transactions when a meter malfunction exemption is approved.	AEMO notes that the Meter Malfunction Exemption process automation requirements are being worked through and will be consulted on to determine all MSATS changes and notifications involved.
227.	Table 16-C	AGL	<p>Noted:</p> <p>There is no definition of Connection Configuration within Table 16-C, although there is for Shared Isolation. AGL suggest that the text be consistent with other fields (eg Previous Read Quality Flag) which defines permitted values, and the specification of those values be contained within the Standing Data for MSATS document.</p> <p>This could also apply to CT and VT information, Test information etc.</p> <p>AGL also notes that Connection Configuration is not available for the LR or MC. AGL believes that the greater benefit of this information lies with the MC and therefore should be available to the MC.</p> <p>AGL also believes that as the LR will be a function in embedded networks, AGL suggests that Connection Configuration include the LR.</p>	<p>AEMO notes the fields' possible values and examples are all detailed in the Standing Data for MSATS document and does not need to be added to the MSATS CATS Procedure to avoid duplication.</p> <p>AEMO agrees with participant comment regarding NMI discovery and will be adding the Connection Configuration field to NMI Discovery Types 1, 2 and MC.</p>

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
228.	Table 16-C	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
229.	Table 16-C	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
230.	Table 16-C	Ausgrid	<p>Ausgrid supports the inclusion of GPS coordinates for rural installations and agrees with the proposed timeframes for population as proposed by AEMO. Ausgrid's rural meter reading routes are "car" routes due to the distance between sites, therefore additional equipment can be provided to the meter reader to capture GPS coordinates for rural sites. Ausgrid again suggests that rural towns should not require GPS coordinates as these will have similar limitations as urban locations.</p> <p>Ausgrid does not support the inclusion of GPS Coordinates for non rural connection points (including rural townships). Current meter reading hardware and collection systems used by Ausgrid does not support the collection of GPS coordinates.</p> <p>The accuracy of coordinates for non-rural sites may not always be accurate due to many meter locations being indoors and other barriers that prevent capturing an accurate GPS coordinates. Ausgrid is not supportive of inaccurate information in MSATS. For most non-rural metering points, the meter location description is a much more appropriate tool to locate the metering point (eg. LHS, veranah, floor 4 RHS of lifts). As identified by AEMO on mutli floor sites, the GPS coordinates would not be of any use any it does not also identify the level.</p> <p>Ausgrid believes that the investments participants will be required to make to capture this inform will not exceed the benefits, particularly if the GPS coordinates are not accurate. Ausgrid suggests that AEMO conduct a cost benefit analysis to justify why this investment should be made by participants for data that 1) may not be accurate, and 2) is used for only a small number of sites.</p> <p>Ausgrid would like to offer another solution, that if a MC/MP cannot locate a meter point and would want the network to conduct an</p>	AEMO notes that a transition period of 36 months will be provided to update all existing manually read meters with GPS coordinates, as a result there will be multiple opportunities within the 36 months to gather the GPS coordinates and provide the information in MSATS. If Ausgrid believes that other areas within the MSATS Standing Data provide more clarity, they can populate this information as well.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
			<p>investigation and collect GPS coordinates, that the MC request the FRMP to send a meter investigation B2B service order requesting GPS coordinates be obtained. This way an appropriately qualified person with specific training and equipment can be sent to site to accurately capture GPS coordinates and the network can recover the costs associated with capturing this data. In most cases in an urban environment, the meter location details should be enough for the MP to find the metering point, for the rare cases where they cannot locate the metering point, the proposed B2B SO process above can be utilised, hence reducing costs to capture GPS coordinates for all NMIs for the small number of times where GPS coordinates are required.</p>	
231.	Table 16-C	AusNet Services (including Mondo)	<p>ConnectionConfiguration – Specify the meaning and expected values of the two characters.</p> <p>Suggest simpler definition for TNICode2 - TNI Code assigned by AEMO to a cross boundary NMI being supplied energy by an adjacent distribution network.</p> <p>CurrentTransformerLocation – Provide an example of expect values</p> <p>CurrentTransformerRatio - The primary and secondary currents of a CT expressed as a ratio. E.g. 100:5</p> <p>CurrentTransformerTest – Provide an example value or express what the value should be</p> <p>VoltageTransformerLocation – Provide an example of expect values</p> <p>VoltageTransformerRatio – The Primary wire coil voltage vs the Secondary wire coil voltage expressed as a ratio. E.g. 500kV : 110V</p> <p>VoltageTransformerTest – Provide an example value or express what the allowed values should be</p> <p>SharedIsolationPointsFlag – Should be set as ‘Unknown’ by default, pre-populated by AEMO. Initially.</p>	<p>AEMO notes the fields’ possible values and examples are all detailed in the Standing Data for MSATS document and does not need to be added to the MSATS Procedure CATS to avoid duplication.</p> <p>AEMO believes that the current TNICode2 definition is more accurate as it covers all scenarios.</p> <p>In relation to the default value for SharedIsolationPointFlag, AEMO believes that this is not a procedural matter, however, we will take it into consideration in the transition plan. AEMO asks participants to reach out to AEMO if they need any help with transitioning their data. AEMO notes that the rule change effective dates obligate the communication of shared fuse arrangements from FRMPs and MCs to LNSPs is to commence 1/7/2021 whilst AEMO’s changes are to be completed by 30/3/2022, this may mean not all SharedIsolationPointFlags will be Unknown.</p>



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
232.	Table 16-C	Energy Queensland	We have no comment on this change.	
233.	Table 16-C	EnergyAustralia	EnergyAustralia does not see the benefit in having a two-character connection configuration field, when the information could be easily accessible elsewhere. It would be useful if the field combined more configuration values (efficiency) but as a two-character connection configuration field the efficiency gains are lost, compared to the additional info that adding two specific fields (connection type, and phases) could provide.	AEMO notes the participant comment and has been provided with previous feedback that industry wish to know this connection configuration information without having to interpret other pieces of data. Therefore, AEMO will confirm the field will remain as defined.
234.	Table 16-C	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
235.	Table 16-C	Origin Energy	GPSCoordinatesLat and GPSCoordinatesLong description outlines 7 decimal places however AEMO proposed an accuracy of 5 decimal places per the Second Draft Report and Determination. Can AEMO confirm if this is correct?	The field will be 'up to 7 decimal places' to make it consistent with B2B.
236.	Table 16-C	PLUS ES	•For completion: Connection Configuration should be discoverable for the MC in the NMI Discovery	AEMO agrees with participant comment regarding NMI discovery and will be adding the Connection Configuration field to NMI Discovery Type 1, 2 and MC.
237.	Table 16-C	Powermetric Metering	GPS Coordinates Lat – It is assumed that GPS coordinates with only 5 decimal places will be accepted. GPS Coordinates Long – It is assumed that GPS coordinates with only 5 decimal places will be accepted.	AEMO notes the respondent's comment and refers to the response in Table 2, item 235.
238.	Table 16-C	Red Energy and Lumo Energy	No comment at this time.	
239.	Table 16-C	Vector Metering	Unclear why ConnectionConfiguration is not available in NMI discovery. This is quite important information as it indicates whether a connection is HV/LV.	AEMO notes the respondent's comment and refers to the response in Table 2, item 236.

**Table 3 Proposed Changes in MSATS Procedures – WIGS**

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
1.	4.3.4(c)	AGL	Noted. However, as the participant may not be responsible for some items of information, AGL suggests that the following sentence be amended: Populate a Change Request with the following information as required:	AEMO notes the respondent’s comment and refers to the response in Table 2, item 104.
2.	4.3.4(c)	Alinta Energy	Agreed	AEMO notes the respondent’s support for the proposed change.
3.	4.3.4(c)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent’s support for the proposed change.
4.	4.3.4(c)	Ausgrid	Shared Isolation point, Connection Configuration and GPS coordinates should not be include in the WIGS procedures as they are not relevant to these types of metering installations.	AEMO added the field for the future proofing of the MSATS Procedure WIGS, and AEMO believes that those fields can be populated currently.
5.	4.3.4(c)	AusNet Services (including Mondo)	No comment	
6.	4.3.4(c)	Energy Queensland	We have no comment on this change.	
7.	4.3.4(c)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent’s support for the proposed change.
8.	4.3.4(c)	Intellihub	Noted Although, as the LNSP may not have details for, and has not the primary responsibility for, some of these items (Manufacturer, meter model, Serial ID, GPS Coordinates etc), a number of these should be under the “may” populate heading, rather than under the “must” populate heading.	AEMO notes the respondent’s comment and refers to the response in Table 2, item 104.
9.	4.3.4(c)	Origin Energy	Noted	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
10.	4.3.4(c)	Powermetric Metering	No comments	
11.		Red Energy and Lumo Energy	No comment at this time.	
12.	4.3.4(h)	AGL	Noted. However, as the participant may not be responsible for some items of information, AGL suggests that the following sentence be amended: Populate a Change Request with the following information as required:	AEMO notes the respondent's comment and refers to the response in Table 2, item 115.
13.	4.3.4(h)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
14.	4.3.4(h)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
15.	4.3.4(h)	Ausgrid	AEMO has stated previously that CT/VT information was not required to be published in MSATS for Wholesale, Interconnector and cross boundary NMs.	AEMO notes that the CT/VT fields are required and not mandatory, hence it only needs to be populated if the participant has the information.
16.	4.3.4(h)	AusNet Services (including Mondo)	No comment	
17.	4.3.4(h)	Energy Queensland	We have no comment on this change.	
18.	4.3.4(h)	EnergyAustralia	EnergyAustralia support the removal.	AEMO notes the respondent's support for the proposed change.
19.	4.3.4(h)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
20.	4.3.4(h)	Origin Energy	Noted	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
21.	4.3.4(h)	Red Energy and Lumo Energy	No comment at this time.	
22.	5.2.4(c)	AGL	Noted	
23.	5.2.4(c)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
24.	5.2.4(c)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
25.	5.2.4(c)	Ausgrid	GPS coordinated should not be include in the WIGS procedure.	AEMO notes that the MSATS Procedures WIGS and CATS have the same CRs as they reside in the same system. It is an obligation on the MPB to provide this information. AEMO notes the revised requirements for remotely read meters reduce the costs associated with gathering GPS Coordinates for WIGS meters.
26.	5.2.4(c)	AusNet Services (including Mondo)	GPS Co-ordinates – Confirm MPB must provide GPS co-ords of the meter/meter box, and not the connection point/site established by the LNISP at time of NMI creation.	AEMO confirms it is related to the meter/meter box.
27.	5.2.4(c)	Energy Queensland	Metering Dynamics notes that to adhere to this change updates will be required to MP processes and systems, in line with required MSATS schema changes.	AEMO notes the respondent's comment.
28.	5.2.4(c)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
29.	5.2.4(c)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
30.	5.2.4(c)	Origin Energy	Noted	
31.	5.2.4(c)	Red Energy and Lumo Energy	No comment at this time.	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
32.	5.2.4(d)	AGL	Noted	
33.	5.2.4(d)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
34.	5.2.4(d)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
35.	5.2.4(d)	Ausgrid	AEMO has stated previously that CT/VT information was not required to be published in MSATS for Wholesale, Interconnector and cross boundary NMI's.	AEMO notes the respondent's comment and refers to the response in Table 3, item 15.
36.	5.2.4(d)	AusNet Services (including Mondo)	No comment	
37.	5.2.4(d)	Energy Queensland	We have no comment on this change.	
38.	5.2.4(d)	EnergyAustralia	EnergyAustralia support the removal.	AEMO notes the respondent's support for the proposed change.
39.	5.2.4(d)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
40.	5.2.4(d)	Origin Energy	Noted	
41.	5.2.4(d)	Red Energy and Lumo Energy	No comment at this time.	
42.	5.3.4(f)	AGL	Noted	
43.	5.3.4(f)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
44.	5.3.4(f)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
45.	5.3.4(f)	Ausgrid	AEMO has stated previously that CT/VT information was not required to be published in MSATS for Wholesale, Interconnector and cross boundary NMI.	AEMO notes the respondent's comment and refers to the response in Table 3, item 15.
46.	5.3.4(f)	AusNet Services (including Mondo)	No comment	
47.	5.3.4(f)	Energy Queensland	We have no comment on this change.	
48.	5.3.4(f)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.
49.	5.3.4(f)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
50.	5.3.4(f)	Origin Energy	Noted	
51.	5.3.4(f)	Red Energy and Lumo Energy	No comment at this time.	
52.	5.4.4(f)	AGL	Noted	
53.	5.4.4(f)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
54.	5.4.4(f)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
55.	5.4.4(f)	Ausgrid	AEMO has stated previously that CT/VT information was not required to be published in MSATS for Wholesale, Interconnector and cross boundary NMI.	AEMO notes the respondent's comment and refers to the response in Table 3, item 15.
56.	5.4.4(f)	AusNet Services (including Mondo)	No comment	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
57.	5.4.4(f)	Energy Queensland	Metering Dynamics notes that to adhere to this change updates will be required to MP processes and systems, in line with required MSATS schema changes.	AEMO notes the respondent's comment.
58.	5.4.4(f)	EnergyAustralia	EnergyAustralia support the removal.	AEMO notes the respondent's support for the proposed change.
59.	5.4.4(f)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
60.	5.4.4(f)	Origin Energy	Noted	
61.	5.4.4(f)	Red Energy and Lumo Energy	No comment at this time.	
62.	9.1.4(b)(iii)	AGL	Noted	
63.	9.1.4(b)(iii)	Alinta Energy	Agreed	AEMO notes the respondent's support for the proposed change.
64.	9.1.4(b)(iii)	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes the respondent's support for the proposed change.
65.	9.1.4(b)(iii)	Ausgrid	AEMO has stated previously that CT/VT information was not required to be published in MSATS for Wholesale, Interconnector and cross boundary NMIs. Shared Isolation point, Connection Configuration and GPS coordinated should not be include in the WIGS procedure.	AEMO notes the respondent's comment and refers to the responses in Table 3, item 4 and 15.
66.	9.1.4(b)(iii)	AusNet Services (including Mondo)	No comment	
67.	9.1.4(b)(iii)	Energy Queensland	We have no comment on this change.	
68.	9.1.4(b)(iii)	EnergyAustralia	EnergyAustralia support the drafting.	AEMO notes the respondent's support for the proposed change.





No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
69.	9.1.4(b)(iii)	Intellihub	Agreed	AEMO notes the respondent's support for the proposed change.
70.	9.1.4(b)(iii)	Origin Energy	Noted	
71.	9.1.4(b)(iii)	Red Energy and Lumo Energy	No comment at this time.	

**Table 4 Proposed Changes in Standing Data for MSATS**

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
1.	Section 13	AGL	Noted	
2.	Section 13	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
3.	Section 13	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.
4.	Section 13	Ausgrid	Agree with proposed changes.	AEMO notes respondent's support for the proposed change.
5.	Section 13	AusNet Services (inclusive of Mondo)	No comment	
6.	Section 13	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
7.	Section 13	Energy Queensland	We have no comment on this change.	
8.	Section 13	Intellihub	Noted Table 32 should have INTERVAL in TimeOfDay field, not ALLDAY. Register Id should possibly be E1 not 01	AEMO notes respondent's comment and agrees that TimeOfDay field should have INTERVAL. AEMO advises that in accordance with ICF_029, the Register Id will remain as 01.
9.	Section 13	Origin Energy	Noted.	
10.	Section 13	Red and Lumo	No comment at this time	
11.	Table 3 CATS_METER_REGISTER	AGL	Noted	
12.	Table 3 CATS_METER_REGISTER	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
13.	Table 3 CATS_METER_REGISTER	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.



No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
14.	Table 3 CATS_METER_REGISTER	Ausgrid	<p>Agree with proposed changes, however would like to provide the following feedback.</p> <p>GPS Coordinates should not be required for BULK, XBOUNDARY and INTERCON.</p> <p>See CATS table 16C comments above for the inclusion of GPS coordinates.</p>	<p>AEMO notes respondent's support for the proposed change and refers to response in Table 2, item 230.</p>
15.	Table 3 CATS_METER_REGISTER	AusNet Services (inclusive of Mondo)	<p>GPS Co-ordinatesLat &amp; GPS Co-ordinatesLong – Definition states that they are Mandatory for " All meters where the site postcode is a "Designated regional area postcode"" – Please clarify against the current AEMO determination that states ALL NMLs must have GPS co-ords after 3 years.</p> <p>ReadTypeCode - Suggest that AEMO populate all the VIC AMI RWDs (Type 5) to indicate 30 min and then we update as the MPB converts and reprograms the meter to 5 min - rather than participants send a CR for every site (750K+).</p> <p>AusNet Services does not agree with setting the fourth char to "D" where a site cannot be converted to 5min due to de-energisation. Prefer to leave the site set to "30min".</p> <p>This obligation introduces complex and costly system rule changes for very little benefit.</p>	<p>AEMO notes respondent's comment and refers to the response in Table 2, item 155.</p> <p>AEMO asks participants to reach out to AEMO if they need any help with transitioning their data. However, AEMO cannot assume at the effective date of these changes that all VIC AMI RWDs (Type 5) are providing 30 minute meter reads and would require this to be confirmed by each participant it is providing assistance to.</p> <p>AEMO intends to keep the option of D as it will be appropriate for those meters included in the first tranche of 5MS (type 1, 2, 3 and subset of 4), and it will indicate those sites that will need to be converted to 5 minute as part of energisation.</p>

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
16.	Table 3 CATS_METER_REGISTER	CitiPower Powercor	<p>CitiPower Powercor seeks clarification of the requirement to capture GPS co-ordinates for NCONUML and type 7 connections. We don't believe it would be possible to capture GPS co-ordinates for Type 7 connections as many of these have a 1 to many NMLs relationship.</p> <p>CitiPower Powercor seeks clarification why the requirement to provide GPS co-ordinates to 7 decimal places has changed from 5 in the 1<sup>st</sup> draft determination? We and many in the industry had proposed that 5 was appropriate in the earlier consultation and AEMO had also confirmed this in the draft determination. We believe 7 is unnecessary and the cost to do this would outweigh the benefit.</p>	<p>AEMO notes respondent's comment.</p> <p>AEMO will amend the procedure to remove the GPS requirement for meter types NCOMUML and type 7. It is not feasible to capture GPS coordinates to locate a physical meter. AEMO refers to the response in Table 2, item 155.</p> <p>AEMO will amend the procedure to include the text 'up' so that the requirement is 'up to 7 decimals places' for GPS Coordinates, which also aligns with B2B procedures.</p>
17.	Table 3 CATS_METER_REGISTER	Endeavour Energy	<p>We note that there are 3 fields for test dates: CurrentTransformerTestDate, VoltageTransformerTestDate and LastTestDate</p> <p>However there is only 1 field for the test result: TestResult, with the description of this field linked to the LastTestDate field.</p> <p>For completeness and avoidance of any confusion there should test result fields corresponding to the CT test and VT test. Therefore, we suggest that 2 new fields be added: CurrentTransformerTestResult and VoltageTransformerTestResult, with the same allowable values as the TestResult field.</p> <p>AEMO provided a response to one of Endeavour Energy's feedback on the 1st draft determination as follow: "AEMO clarifies that ReadTypeCode field does not apply to all meter types and hence proposes it to be REQUIRED."</p> <p>We note that AEMO has not updated the document to explain which meter type requires the ReadTypeCode to be populated. For clarity we suggest AEMO defines when a ReadTypeCode is required.</p> <p>AEMO stated in their report that "AEMO will make GPS coordinates Required for all NMLs for three years (36 months) from the effective date, then Mandatory thereafter, to enable a suitable transition period for collection".</p>	<p>AEMO notes that the LastTestDate and TestResult relate to a meter and not the transformer. If test result is required for CT and VT transformer tests then AEMO requests the respondent raise an ICF.</p> <p>AEMO notes that since ReadTypeCode is REQUIRED it is to be populated where available and does not need to be populated for Meter Type 7 and NCONUML.</p> <p>For the comment about GPS Coordinates, AEMO refers to the responses in Table 4, item 15 and 16.</p>

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
			<p>However, this is not reflected in the Standing Data for MSATS document.</p> <p>We suggest AEMO updates the Standing Data for MSATS document to reflect AEMO's decision.</p>	
18.	Table 3 CATS_METER_REGISTER	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
19.	Table 3 CATS_METER_REGISTER	Energy Queensland	<p>Energex and Ergon Energy would like confirmation of the definition of interval meter where referenced in the GPSCoordinatesLat and GPSCoordinatesLong fields, i.e. does the concept of interval include Streetlight and NCONUML NMIs?</p> <p>Energex and Ergon Energy note that the new value of D for ReadTypeCode field in the CATS_METER_REGISTER table does not represent the purpose of the field. Energex and Ergon Energy believe that if a meter cannot be converted then it should remain as value B - 15min or C-30min.</p> <p>Energex and Ergon Energy would like confirmation on the definition of "BLOCK methodology" in NextScheduledReadDate where the forward estimate process is used.</p>	<p>AEMO notes respondent's comment and refers to the response in Table 4, item 15 for GPS coordinates and ReadTypeCode.</p> <p>AEMO refers to the Service Level Procedure MDP Services, section 3.11 for the definition of "BLOCK methodology".</p>
20.	Table 3 CATS_METER_REGISTER	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.
21.	Table 3 CATS_METER_REGISTER	Origin Energy	<p>Origin Energy seek clarification whether Type 7 should be included in addition to NCONUML in the Standing Data Required field for CurrentTransformerLocation, CurrentTransformerType and CurrentTransformerRatio.</p> <p>GPSCoordinatesLat and GPSCoordinatesLong description outlines 7 decimal places however AEMO proposed an accuracy of 5 decimal places per the Second Draft Report and Determination. Can AEMO confirm if this is correct?</p>	<p>AEMO notes respondent's comment and refers to the Table 4, item 5 for NCONUML and type 7 meters.</p> <p>AEMO refers to the response in Table 4, item 16 for GPS Co-ordinates.</p>
22.	Table 3 CATS_METER_REGISTER	PLUS ES	<p>GPSCoordinatesLat</p> <p>The definition was not updated to align with the draft determination.</p> <p>To be applied to all NMIs – Transition period for 36 months</p>	AEMO notes respondent's comment and refer to the response in Table 2, item 155.



No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
			<p>GPSCoordinatesLong</p> <p>PLUS ES supports the overall objective in introducing this field as it will deliver value. We also support the mandatory requirement to provide the GPS coordinates in the following instances:</p> <ul style="list-style-type: none"> <li>• New metering installations (install new meter/meter exchange)</li> <li>• Every time a site/meter installation is visited irrespective of the purpose. For example, <ul style="list-style-type: none"> <li>○ Meter Investigation</li> <li>○ Meter Testing</li> <li>○ Manual Meter Reading</li> <li>○ Local disconnection/reconnection etc.</li> </ul> </li> </ul> <p>PLUS ES strongly disagrees with requirements which would mandate a participant to undertake a costly exercise purely for providing GPS co-ordinates in MSATS, even more so when a field visit would be required only for the purpose of obtaining the coordinates. The cost versus benefits analysis alone would be prohibitive especially when the likelihood of the meter churning to another provider would be extremely low. Any benefits realised would be nullified.</p> <p>In cases, where regular frequent visits are not required to the metering installation, i.e. remote enabled, there is the additional burden of deploying resources to support this requirement. Resources employed specifically for this purpose or redeployed from their current BAU tasks causing upstream/downstream impacts to the operational arm of the business. This could potentially impact other industry determined deliverables and timeframes in addition to the financial burden.</p> <p>Overall though PLUS ES recommends that a cost benefits analysis is undertaken across the industry to determine if the GPS co-ordinate fields at the metering installation would mitigate unlocatable meters. Things to consider:</p> <ul style="list-style-type: none"> <li>• what would be the success rate (accuracy/availability)?</li> <li>• how large is the current issue (volumes/costs)?</li> </ul>	

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
			<ul style="list-style-type: none"> <li>cost of implementing and meeting the mandate and</li> <li>are there other more cost-effective alternatives in getting the information, i.e. asking the customer about the meter location?</li> </ul>	
23.	Table 3 CATS_METER_REGISTER	Powermetric	<p>GPS Coordinates Lat – It is assumed that GPS coordinates with only 5 decimal places will be accepted.</p> <p>GPS Coordinates Long – It is assumed that GPS coordinates with only 5 decimal places will be accepted.</p>	AEMO notes respondent’s comment and refers to the response in Table 4, item 16.
24.	Table 3 CATS_METER_REGISTER	Red and Lumo	No comment at this time	
25.	Table 3 CATS_METER_REGISTER	TasNetworks	TasNetworks question the requirement to provide the NSRD for Type 7 metering installations and believe the field usage should be optional.	AEMO notes that NSRD is Required for Type 7 metering installations. If TasNetwork’s system does not generate a NSRD for Type 7 then you don’t need to provide it.
26.	Table 3 CATS_METER_REGISTER	United Energy	<p>United Energy seeks clarification of the requirement to capture GPS co-ordinates for NCONUML and type 7 connections. We don’t believe it would be possible to capture GPS co-ordinates for Type 7 connections as many of these have a 1 to many NMLs relationship.</p> <p>United Energy seeks clarification why the requirement to provide GPS co-ordinates to 7 decimal places has changed from 5 in the 1<sup>st</sup> draft determination? We and many in the industry had proposed that 5 was appropriate in the earlier consultation and AEMO had also confirmed this in the draft determination. We believe 7 is unnecessary and the cost to do this would outweigh the benefit.</p>	<p>AEMO notes respondent’s comment and refers to the response in Table 4, item 15 for NCONUML and type 7.</p> <p>AEMO refers to the response in Table 4, item 16 for GPS Co-ordinates.</p>

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
27.	Table 3 CATS_METER_REGISTER	Vector Metering	<p>Do not agree that GPSCoordinates should be mandatory for all meters after 36 months. This is applying a retrospective regulation. MC's who have installed remotely read meters prior to the effective date and did not record GPS location will be required to revisit that site just to collect this data. A reasonable cost for a contestable MC to revisit these sites would be \$80-\$100 per NMI. The benefits of revisiting the site to capture this data are unlikely to outweigh this cost. This will be passed on to consumers.</p> <p>Vector recommends that provision of GPS location should be Required, not Mandatory and that from the effective date of the procedures the MC/MPB/MDP should be required to ensure that GPS location is captured when the site is attended for any reason (meter investigations, manual meter read, adds &amp; alts). This will effectively make it mandatory for new meters going forward, and over time all other meters will be captured.</p> <p>Read type code – Do not agree with fourth character 'D'. If a 30 minute meter is unable to be converted to 5 minutes for any reason (including de-energisation) its fourth character read type code will remain at 'C – 30 minute'. 'D' is redundant.</p>	AEMO notes respondent's comment and refers to the response in Table 2, item 155.
28.	Table 6 CATS_NMI_DATA	AGL	Noted	
29.	Table 6 CATS_NMI_DATA	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
30.	Table 6 CATS_NMI_DATA	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.



No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
31.	Table 6 CATS_NMI_DATA	Ausgrid	<p>Agree with proposed changes, however would like to provide the following feedback.</p> <p>ConnectionConfiguration – We are unsure why this is required as the MP would generally have a number of metering configurations with them on site. There will be difficulty in distinguishing between 2 and 3 phase installations as many have the same meter model (eg. Email SDM meters are both 2 and 3 phase). In addition there are a number of sites in Ausgrid where there are 2 phases connected to the premises one phase for domestic load and the other for controlled load, is this a 1 or 2 phase connection? These sites will be difficult to accurately capture.</p> <p>Ausgrid proposes that a more relevant and important configuration detail is whether it is WC or CT connected, where character 1 is "L". First Character - H or L Second Character - W or C</p> <p>Ausgrid agrees with AEMO in having SectionNumber and DP Number as required for NSW.</p>	<p>AEMO notes respondent's support for the proposed change.</p> <p>AEMO notes that ConnectionConfiguration is based on the network feeding into the connecting point and not metering.</p>
32.	Table 6 CATS_NMI_DATA	AusNet Services (inclusive of Mondo)	<p>Suggest for TNICode2 - TNI Code assigned by AEMO to a cross boundary NMI that identifies the TNI that typically supplies the energy (i.e. by an adjacent distribution network). This value must correspond to a valid code in the CATS_TNI_Codes table.</p> <p>DeliveryPointIdentifier – Specify conditions when this value should be populated.</p>	<p>AEMO notes respondent's comment and refers to the response in Table 2, item 231.</p> <p>AEMO notes that the DeliveryPointIdentifier field should be provided where it is available.</p>
33.	Table 6 CATS_NMI_DATA	CitiPower Powercor	<p>Shared Isolation Point Flag - as stated above, CitiPower Powercor does not support inclusion of the 'I' flag and recommends it be removed.</p> <p>We believe the information captured about shared fuse arrangements should be kept simple and adding an additional flag adds complexity and creates the potential for error. Users of the field only need to understand 2 things – the NMI is either impacted by a shared isolation scenario (therefore the value of "Y" provides this information) or it is not impacted (therefore value of "N" provides this information).</p>	<p>AEMO notes respondent's comment and refers to the response in Table 2, item 231.</p>

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
34.	Table 6 CATS_NMI_DATA	Endeavour Energy	<p>We agree with making the ConnectionConfiguration at the metering installation level, as opposed to the meter level. We also agree with the removal of the last 2 characters of this field as it would be a duplicate of the transformer information in the meter register table. However, we disagree with making the ConnectionConfiguration the responsibility of the LNSP because the LNSP is not aware of the Phases In Use information. For example, it is not uncommon for premises to be supplied with 3 phases but only use 1 phase. This practice allows for an easier future service upgrade and is cost effective because it is done during the building stages of the premises. The only party that would have this information would be the MP because they have to install metering equipment that aligns with the number of phases used at the premises. The MP would also be aware if the connection is LV or HV because they have to install metering equipment that aligns with the connection type. We believe that the obligation for populating the ConnectionConfiguration should be with the party that has the information, therefore this field should be the responsibility of the MP.</p> <p>We also suggest that the CATS Procedure gets updated accordingly. Regardless of who is responsible for the ConnectionConfiguration this information would not be known at the time the NMI is created in MSATS. Therefore, this field should be made Required, as opposed to being Mandatory. If AEMO insists on making this field Mandatory then there must be values allowed for each character to reflect an 'unknown'.</p> <p>We also suggest that the CATS Procedure gets updated accordingly.</p>	<p>AEMO notes respondent's support for the proposed change.</p> <p>AEMO notes that it is the phases for the networks into the connection and LNSPs approve these arrangements through their connection agreements. NMIs are established after these details are known through the connection agreements.</p>
35.	Table 6 CATS_NMI_DATA	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
36.	Table 6 CATS_NMI_DATA	Energy Queensland	We have no comment on this change.	
37.	Table 6 CATS_NMI_DATA	Intellihub	Noted	AEMO notes respondent's comment.

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
38.	Table 6 CATS_NMI_DATA	Origin Energy	Origin Energy seek clarification on how the LNSP will anticipate the identification and management of sites that are "I". What is the process going to be as this is a mandatory field and how and when will this be moved to "I"?	AEMO notes respondent's comment. The LNSP will be informed that it is 'I' by their FRMP or MC and then the LNSP will update the MSATS.
39.	Table 6 CATS_NMI_DATA	PLUS ES	<p>Connection Configuration GNAFPID</p> <p>The conversation was generally for AEMO to populate this field.</p> <ul style="list-style-type: none"> <li>PLUS ES has noted that CRs which the LNSP and/or ENM raise have these fields included to be populated, as applicable. The response in the draft report is that it will be required and LNSP to provide if they have this information.</li> <li>If it remains as applicable for the ENM, should this also be indicated in the 'party to provide'.</li> </ul>	AEMO notes respondent's comment. AEMO notes that in MSATS the Embedded Network Manager is the LNSP. The Embedded Network CRs have been updated to include the new amended fields.
40.	Table 6 CATS_NMI_DATA	Powermetric	<p>Connection Configuration – It would be more effective if the first character could distinguish between Low Voltage Direct Connection (Whole Current) and Low Voltage CT connection i.e.</p> <p>First Character = Connection Type</p> <p>H = High voltage (as defined in the NER)</p> <p>C = Low voltage CT connected (lower than the threshold defined for high voltage in the NER)</p> <p>D= Low Voltage Direct (Whole Current) Connected (lower than the threshold defined for high voltage in the NER)</p>	AEMO notes that it is not a meter type but connection configuration at the network level.
41.	Table 6 CATS_NMI_DATA	Red and Lumo	No comment at this time	

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
42.	Table 6 CATS_NMI_DATA	SA Power Networks	Shared Isolation Point Flag SA Power Networks is unclear what benefit the flag value of "I" will provided to the industry and therefore request this value be removed. The information captured about Shared Fuse arrangements should be kept simple - adding an additional flag value adds complexity and provides room for errors (both in system records and business interpretation). Users of the field only need to understand 2 things – the NMI is either impacted by a Shared Isolation scenario (therefore the value of "Y" provides this information) or it is not impacted (therefore value of "N" provides this information).	AEMO notes respondent's comment and refers to the response in Table 4, item 33.
43.	Table 6 CATS_NMI_DATA	United Energy	Shared Isolation Point Flag - as stated above, United Energy does not support inclusion of the 'I' flag and recommends it be removed. We believe the information captured about shared fuse arrangements should be kept simple and adding an additional flag adds complexity and creates the potential for error. Users of the field only need to understand 2 things – the NMI is either impacted by a shared isolation scenario (therefore the value of "Y" provides this information) or it is not impacted (therefore value of "N" provides this information).	AEMO notes respondent's comment and refers to the response in Table 4, item 33.
44.	Table 6 CATS_NMI_DATA	Vector Metering	SharedIsolationPointFlag - do not believe there is a need to differentiate between NMI's are part of a shared fuse installation but can be isolated ( 'I' ) and NMI's that are not on a shared fuse ('N'). Both these Meters are not subject to shared fusing requirements and will be treated the same. Vector recommends values should be 'S'hared fusing,'I'solated fusing and 'U'nknown; Also recommend field be called 'IsolationPointFlag'.	AEMO notes respondent's comment and refers to the response in Table 4, item 33.
45.	Table 8 CATS_REGISTER_IDENTIFI ER	AGL	Noted	AEMO notes respondent's comment.
46.	Table 8 CATS_REGISTER_IDENTIFI ER	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.



No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
47.	Table 8 CATS_REGISTER_IDENTIFIER	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.
48.	Table 8 CATS_REGISTER_IDENTIFIER	Ausgrid	Agree with proposed changes.	AEMO notes respondent's support for the proposed change.
49.	Table 8 CATS_REGISTER_IDENTIFIER	AusNet Services (inclusive of Mondo)	No comment	
50.	Table 8 CATS_REGISTER_IDENTIFIER	Endeavour Energy	The TimeofDay field has the following description added: For Interval meters, use code "INTERVAL" We disagree with this addition because it does not provide any meaningful information – an interval meter can be determined by the InstallationTypeCode field. In addition, it precludes the provision of more meaningful information by providing one of the other values. Since the value of INTERVAL provides no meaningful information it should be removed. If AEMO insist on maintaining the INTERVAL value then the above statement should be removed to allow the MP to determine which value to provide.	AEMO notes respondent's comment. AEMO determined from feedback to the Draft Report that the code INTERVAL should be used for all interval meters and updated the description to reflect this.
51.	Table 8 CATS_REGISTER_IDENTIFIER	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
52.	Table 8 CATS_REGISTER_IDENTIFIER	Energy Queensland	We have no comment on this change.	
53.	Table 8 CATS_REGISTER_IDENTIFIER	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.



No	Section No / Field Name	Consulted person	Respondent Comments		AEMO response
54.	Table 8 CATS_REGISTER_IDENTIFIER	Origin Energy	Noted.		AEMO notes respondent's comment.
55.	Table 8 CATS_REGISTER_IDENTIFIER	Red and Lumo	No comment at this time		
56.	Table 12 Valid Datastream Type Codes	CitiPower Powercor	Contents of this table don't appear to incorporate changes required for 5MS/GS and we seek confirmation that this procedure will be updated if 5MS is implemented ahead or with the MS DR changes and include the N datastream.		AEMO notes that these changes are in 5MS version and will be consolidated once effective dates are determined.
57.	Table 12 Valid Datastream Type Codes	United Energy	Contents of this table don't appear to incorporate changes required for 5MS/GS and we seek confirmation that this procedure will be updated if 5MS is implemented ahead or with the MS DR changes and include the N datastream.		AEMO notes respondent's comment and refers to the response in Table 4, item 56.
58.	Table 14 Valid Transformer Fields values	AGL	Noted		AEMO notes respondent's comment.
59.	Table 14 Valid Transformer Fields values	AusNet Services (inclusive of Mondo)	CT Values that are used by AusNet Services (Mondo)	2500/5 30/5 300/1 300/5 3500/1 40/5 400/1 400/5 400/5 450/5 50/1 50/5 500/1 500/5 60/5	AEMO notes the respondent's comment and refers to the response in Table 1, item 2.

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
			20/5 200/1 200/5 2000/1 2000/5 25/5 250/1 250/5	600/1 600/5 75/5 800/1 800/5 900/1 900/5
60.	Table 15 Valid Meter Use Codes	AGL	<p>AGL notes that Solar/PV has been deleted from the available Valid Meter Codes. In the First Draft Determination (pp 46, 76) AEMO indicated that Solar/PV was to be a Required field.</p> <p>AGL does not support this deletion. The proposal to use 'Revenue' applies to most of the other meter types in Table 15 (Standing Data) such as TUOS, sample, prepaid and unmetered, which are all used to generate revenue.</p> <p>'Revenue' is the base case description and the other enumerations are provided to ensure participants have a clearer understanding of the usage associated with that meter. Further Solar/PV in particular is more than just a revenue meter as many customers receive income from the Solar component.</p> <p>Going forward, its likely we will also need a descriptor for Solar/Battery or just Battery to differentiate potential Demand Services at that NMI. Noting the recent SA gov consultation on Smarter homes, there may be a need to further identify <a href="#">Solar/PV – Controlled</a> to separate uncontrolled Solar from controlled Solar.</p>	<p>AEMO notes that the South Australian government consultation on Regulatory Changes for Smarter Homes. AEMO will review the SA jurisdictional requirements and, if changes are required, consult on them separate to this MSDR consultation.</p>
61.	Table 15 Valid Meter Use Codes	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
62.	Table 15 Valid Meter Use Codes	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.

No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
63.	Table 15 Valid Meter Use Codes	Ausgrid	Ausgrid does not understand why UNMETERED has been added as a type of meter use. If the NMI is an unmetered supply, wouldn't the meter use code be revenue as the data is calculated for revenue billing?	AEMO notes that UNMETERED is a valid 'meter'. The field is about meter use and the code appropriate for Type 7 and NCONUML is Revenue, hence, we have removed Unmetered from the list.
64.	Table 15 Valid Meter Use Codes	AusNet Services (inclusive of Mondo)	No comment	
65.	Table 15 Valid Meter Use Codes	Energy Australia	EnergyAustralia believe that SOLAR/PV is still a required field; although solar can be determined by the tariff assigned, there will still be a need to identify controllable solar from uncontrollable solar (which the tariff will not confirm).	AEMO notes respondent's comment and refers to the response in Table 4, item 60.
66.	Table 15 Valid Meter Use Codes	Energy Queensland	We have no comment on this change.	
67.	Table 15 Valid Meter Use Codes	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.
68.	Table 15 Valid Meter Use Codes	Origin Energy	Origin Energy seeks confirmation from AEMO why SOLAR/PV has been removed from the Meter Use field. Origin Energy's preference is for this field to remain and be a "Required" field. In addition, is there a need to have the Meter Use code of "UNKNOWN" given there are 10+ codes to choose from?	AEMO notes respondent's comment and refers to the response in Table 4, item 60. AEMO notes that Meter Use is a Mandatory field and Unknown has been included for the NMIs where the usage is not yet known.
69.	Table 15 Valid Meter Use Codes	PLUS ES	PLUS ES understanding is that UNMETERED is a type of meter supply, not a use of a meter. It also believes that the use of unmetered would still fall into existing enumerations available such as REVENUE, etc. The draft report nor AEMO responses provided clarification for the addition of this value.	AEMO notes respondent's comment and refers to the response in Table 4, item 63.





No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
70.	Table 15 Valid Meter Use Codes	Red and Lumo	Red and Lumo would like to point out that Solar / PV seems to have been missed out or not included from the valid meter codes, however, it was confirmed in the first draft as a required option. We would also suggest that an additional option of Solar / PV Controlled be considered to differentiate between controlled and uncontrolled Solar.	AEMO notes respondent's comment and refers to the response in Table 4, item 60.
71.	Table 16 Valid Time of Day Codes	AGL	Noted AGL queries the meaning of the additional text against Interval and how it would be used with say Peak or Shoulder. Is it intended that Interval is used for flat tariff registers and that Peak, Shoulder etc would be used where a time of use tariff is applied.	AEMO notes respondent's comment and refer to the response in Table 4, item 50.
72.	Table 16 Valid Time of Day Codes	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
73.	Table 16 Valid Time of Day Codes	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.
74.	Table 16 Valid Time of Day Codes	Ausgrid	Agree with proposed changes.	AEMO notes respondent's support for the proposed change.
75.	Table 16 Valid Time of Day Codes	AusNet Services (inclusive of Mondo)	No comment	
76.	Table 16 Valid Time of Day Codes	Endeavour Energy	For the INTERVAL value the following was added: used for all Interval metering We disagree with this addition because it does not provide any meaningful information – an interval meter can be determined by the InstallationTypeCode field. In addition, it precludes the provision of more meaningful information by providing one of the other values. Since the value of INTERVAL provides no meaningful information it should be removed. If AEMO insist on maintaining the INTERVAL value then the above statement should be removed to allow the MP to determine which value to provide.	AEMO notes respondent's comment and refers to the response in Table 4, item 71.



No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
77.	Table 16 Valid Time of Day Codes	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
78.	Table 16 Valid Time of Day Codes	Energy Queensland	We have no comment on this change.	
79.	Table 16 Valid Time of Day Codes	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.
80.	Table 16 Valid Time of Day Codes	Origin Energy	Noted.	AEMO notes respondent's comment.
81.	Table 16 Valid Time of Day Codes	Red and Lumo	No comment at this time	
82.	Table 32 CATS_REGISTER_IDENTIFIER	Vector Metering	This is a Interval meter. TimeOfDay should be 'INTERVAL not 'ALLDAY'.	AEMO notes respondent's comment and will correct the example.
83.	Table 43 CATS_Meter_Register	AGL	Noted	AEMO notes respondent's comment.
84.	Table 43 CATS_Meter_Register	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
85.	Table 43 CATS_Meter_Register	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.
86.	Table 43 CATS_Meter_Register	Ausgrid	Agree in line with above comments.	AEMO notes respondent's support for the proposed change.
87.	Table 43 CATS_Meter_Register	AusNet Services (inclusive of Mondo)	No comment	
88.	Table 43 CATS_Meter_Register	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
89.	Table 43 CATS_Meter_Register	Energy Queensland	We have no comment on this change.	



No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
90.	Table 43 CATS_Meter_Register	Intellihub	Noted. Field "Test Result" is defined as Varchar2(20), however has only 2 enumerated values, "Pass" or "Fail" (as per "Table 18"), hence could be redefined as Varchar2(4)	AEMO agrees with respondent's comment and will amend the procedure to make it Varchar2(4).
91.	Table 43 CATS_Meter_Register	Origin Energy	Noted.	AEMO notes respondent's comment.
92.	Table 43 CATS_Meter_Register	Powermetric	GPS Coordinates Lat – It is assumed that GPS coordinates with only 5 decimal places will be accepted. GPS Coordinates Long – It is assumed that GPS coordinates with only 5 decimal places will be accepted.	AEMO notes respondent's comment and refers to the response in Table 4, item 16.
93.	Table 43 CATS_Meter_Register	Red and Lumo	No comment at this time	
94.	Table 46 CATS_NMI_Data	AGL	Noted Shared isolation flag character length 10 seems a lot for a 1-character flag; Two (2) characters would be adequate.	AEMO agrees with respondent and will amend the field as CHAR(1).
95.	Table 46 CATS_NMI_Data	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
96.	Table 46 CATS_NMI_Data	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.
97.	Table 46 CATS_NMI_Data	Ausgrid	Agree in line with above comments.	AEMO notes respondent's support for the proposed change.
98.	Table 46 CATS_NMI_Data	AusNet Services (inclusive of Mondo)	No comment	
99.	Table 46 CATS_NMI_Data	Endeavour Energy	The Shared Point Isolation Flag has a browser format of CHAR(10), this should be VARCHAR2(10)	AEMO notes respondent's comment and refers to the response in Table 4, item 94.
100.	Table 46 CATS_NMI_Data	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.



No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
101.	Table 46 CATS_NMI_Data	Energy Queensland	We have no comment on this change.	
102.	Table 46 CATS_NMI_Data	Intellihub	Noted Field "SharedIsolationPointFlag" is an enumerated list of 4x 1 character values. Char(10) seems excessive. Char(1) seems all that is currently necessary, or Char(2) to cater for future expansion.	AEMO notes respondent's comment and refers to the response in Table 4, item 94.
103.	Table 46 CATS_NMI_Data	Origin Energy	Noted.	AEMO notes respondent's comment.
104.	Table 46 CATS_NMI_Data	Red and Lumo	No comment at this time	
105.	Table 49 CATS_Meter_Register	AGL	Noted	AEMO notes respondent's comment.
106.	Table 49 CATS_Meter_Register	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
107.	Table 49 CATS_Meter_Register	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.
108.	Table 49 CATS_Meter_Register	Ausgrid	Agree in line with above comments.	AEMO notes respondent's support for the proposed change.
109.	Table 49 CATS_Meter_Register	AusNet Services (inclusive of Mondo)	No comment	
110.	Table 49 CATS_Meter_Register	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
111.	Table 49 CATS_Meter_Register	Energy Queensland	We have no comment on this change.	AEMO notes respondent's comment.
112.	Table 49 CATS_Meter_Register	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.



No	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
113.	Table 49 CATS_Meter_Register	Origin Energy	GPSCoordinatesLat and GPSCoordinatesLong description outlines 7 decimal places however AEMO proposed an accuracy of 5 decimal places per the Second Draft Report and Determination. Can AEMO confirm if this is correct?	AEMO notes respondent's comment and refers to the response in Table 4, item 16.
114.	Table 49 CATS_Meter_Register	Red and Lumo	No comment at this time	
115.	Table 52 CATS_NMI_Data	AGL	Noted	AEMO notes respondent's comment.
116.	Table 52 CATS_NMI_Data	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
117.	Table 52 CATS_NMI_Data	Aurora Energy	Aurora Energy supports the proposed changes	AEMO notes respondent's support for the proposed change.
118.	Table 52 CATS_NMI_Data	Ausgrid	Agree in line with above comments.	AEMO notes respondent's support for the proposed change.
119.	Table 52 CATS_NMI_Data	AusNet Services (inclusive of Mondo)	No comment	
120.	Table 52 CATS_NMI_Data	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
121.	Table 52 CATS_NMI_Data	Energy Queensland	We have no comment on this change.	
122.	Table 52 CATS_NMI_Data	Intellihub	Noted	AEMO notes respondent's comment.
123.	Table 52 CATS_NMI_Data	Origin Energy	Noted.	AEMO notes respondent's comment.
124.	Table 52 CATS_NMI_Data	Red and Lumo	No comment at this time	

**Table 5 Proposed Changes in Metrology Procedure Part A**

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
1.	14. SHARED FUSE ARRANGEMENTS	AGL	<p>AGL Notes the Proposed Changes In The Metrology Procedure (as required by the Rules0. However, see responses to CATS 2.2/2.3; AGL believes that what has been placed in the Metrology Procedures may not be adequate. Until there is clarity on how this process is to be managed, the obligations in the metrology procedures may be insufficient while the obligations in the CATS procedures may be overstated.</p> <p>AGL strongly suggests that some basic scenarios be reviewed at industry prior to these changes being finalised.</p>	AEMO notes respondent’s comment and refers to the response in Table 2, item 1.
2.	14. SHARED FUSE ARRANGEMENTS	Alinta Energy	Agreed	AEMO notes respondent’s support for the proposed change.
3.	14. SHARED FUSE ARRANGEMENTS	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes respondent’s support for the proposed change.
4.	14. SHARED FUSE ARRANGEMENTS	Ausgrid	Diagram 3 – Once the Shared Fuse Arrangement has been fully resolved, should these not be updated to N? This seems to contradict clause 2.3 (t) of the draft CATS procedures.	AEMO notes the respondent’s comment and refers to the response in Table 2, item 53.
5.	14. SHARED FUSE ARRANGEMENTS	AusNet Services (inclusive of Mondo)	No comment	
6.	14. SHARED FUSE ARRANGEMENTS	Endeavour Energy	<p>The AEMC’s ERC0275 final rule states that the “Local Network Service Providers to record all connection points with shared fuse arrangements as soon as practicable after becoming aware of the shared fuse arrangements” (NER clause 7.16.3.c.7.ii of the final rule for Introduction of Metering Coordinator Planned Interruptions).</p> <p>However, clause 14.a stipulates that the LNSP must identify Shared Fuse Arrangements. We believe that using the term ‘identify’ in defining this new obligation is more than what is required by the rules, which is to record Shared Fuse Arrangements when the LNSP becomes aware. The term ‘identify’ suggests that the LNSP must</p>	<p>AEMO intends to keep the current wording for the clause in line with the final determination (page 17) where the AEMC also included identify:</p> <p>‘The final rule also seeks to improve consumer outcomes over time by requiring AEMO to include in its metrology procedures obligations on DNSPs to record information that they become aware of regarding the location of shared fuses as a result of retailers,</p>

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
			<p>actively confirm if a Shared Fuse Arrangements exists or not, which is not only costly but also was not the intent of the Rules as per the AEMC statement “DNSPs should not be expected to proactively inspect sites to gather this information for all of their customers, but should record it if they become aware of it.” (Page 39, Final Determination on Introduction of Metering Coordinator Planned Interruptions).</p> <p>We therefore suggest that clause 14.a be reworded to: Local Network Service Providers (LNSPs) must, when they become aware, record and maintain Shared Fuse Arrangements through the Shared Isolation Point Flag in MSATS for every connection point that is part of each specific Shared Fuse Arrangement, as specified in the NER and the MSATS Procedures.</p>	MCs and other relevant parties informing the DNSP of shared fusing, or as identified as a result of their own work.’
7.	14. SHARED FUSE ARRANGEMENTS	Endeavour Energy	<p>We note that the AEMC stated Shared Fuse Arrangements information “... should be used to provide an indication of where shared fusing may apply, but it is not expected that this information would be audited to determine validity due to costs and the administrative burden that auditing the data would impose.” (Page 39, Final Determination on Introduction of Metering Coordinator Planned Interruptions).</p> <p>Therefore, for the avoidance of any doubt we suggest the following sentence be added to clause 14.b: The LNSP is not required to audit the Shared Fuse Arrangement information received from the FRMP or MC.</p>	AEMO notes the respondent’s comment. The NER doesn’t provide head of power to make this statement, LNSPs can make their own choice on ‘auditing’. AEMO will not include a statement in the procedures.
8.	14. SHARED FUSE ARRANGEMENTS	Energy Australia	EnergyAustralia believes that the timeframe requirements for notification should be placed in the Metrology Procedure; however, we support the drafting if AEMO elect to have the timeframe requirements spread between the Metrology Procedure and the CATS.	AEMO notes respondent’s comment and refers to the response in Table 2, item 1.
9.	14. SHARED FUSE ARRANGEMENTS	Energy Queensland	We have no comment on this change.	
10.	14. SHARED FUSE ARRANGEMENTS	Intellihub	Noted, however:	AEMO notes the respondent’s comment. As per the AEMCs final rule clause 7.16.3(c)(7)(i),

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
			<p>Under 14 (b), we believe that the primary responsibility for advising participants of Shared Fuse Arrangements should sit with the Metering Provider rather than the MC, since it is the MP who is the participant most likely to be at site, and therefore most aware of the details of the Fuse and wiring situation at the NMI.</p> <p>While the MC is responsible for co-ordinating the MP work, it is the MP which has first hand knowledge of the shared fuse arrangements at site.</p> <p>Additionally, none of the defined CATS transactions provide a mechanism for anyone other than the LNSP or ENM to advise participants of any Shared Fuse Arrangements, presumably using the "SharedIsolationPointFlag". However the CATS documentation states that the FRMP and MC both have responsibilities in this area, without providing a mechanism for them to meet this obligation. It is preferred that this mismatch in responsibilities and mechanisms be resolved before implementing these obligations.</p>	the obligation is for the FRMP or MC to notify a LNSP, but we will also add for clarity an obligation that the MPB should notify the MC and/or FRMP when they become aware as per the response in Table 2, item 12.
11.	14. SHARED FUSE ARRANGEMENTS	Origin Energy	See comments 2.2(s).	AEMO notes the respondent's comment and refers to the response in Table 2, item 21.
12.	14. SHARED FUSE ARRANGEMENTS	PLUS ES	Additional comments provided in Section 9 of the paper for Shared Fuse Arrangements.	AEMO notes the respondent's comment and refers to the response in Table 8, item 13.
13.	14. SHARED FUSE ARRANGEMENTS	Powermetric	Powermetric is concerned about the inefficient and potentially confusing situation of both FRMP and MDP providing shared fused connection points information to the LNSP given the MPB obligation to also inform the FRMP of the same situations. Suggest a chain of communication from MPB to FRMP to LNSP.	AEMO notes the respondent's comment and refer to the response in Table 5, item 10.
14.	14. SHARED FUSE ARRANGEMENTS	Powermetric	Diagram 4 – Has zero isolation on Smart Meter (Meter 1).	AEMO agrees with the respondent's comment and will fix the diagram.
15.	14. SHARED FUSE ARRANGEMENTS	Red and Lumo	In line with feedback provided to the MSATS CATS Procedures 2.2 (r) and 2.2 (s), the obligation should be taken out of the CATS Procedures and therefore the Metrology Procedure does not need to point to it. Wording to be changed as follows:	AEMO notes the respondent's comment and refer to the response in Table 2, item 1.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
			(b) Financially Responsible Market Participants (FRMPs) and Metering Coordinators (MCs) must notify the Local Network Service Providers (LNSPs) of any new Shared Fuse Arrangements or any changes to existing Shared Fuse Arrangements for the connection points relevant to them, as specified in the NER, <del>and the MSATS Procedures.</del>	
16.	14. SHARED FUSE ARRANGEMENTS	SA Power Networks	SA Power Networks do not support the current wording and suggest the following changes to 14(a) – noting that the final AEMC rules only place an obligation on distributors to record the shared fusing information as soon as practicable. Suggested wording - 14(a) - Local Network Service Providers (LNSPs) must record, and maintain Shared Fuse Arrangements through the Shared Isolation Point Flag in MSATS where the connection point has been identified as impacted, as specified in the NER and the MSATS Procedures.	AEMO notes the respondent’s comment and refers to the response in Table 5, item 6.
17.	14. SHARED FUSE ARRANGEMENTS	SA Power Networks	14(d) – diagram changes - Diagrams 2 & 3 – these diagrams should be updated to remove this value from examples (as per comments made regarding the flag value of “I”).	AEMO notes the respondent’s comment and refers to the response in Table 2, item 42.
18.	14. SHARED FUSE ARRANGEMENTS	SA Power Networks	Diagram 4 – Meter 1 should still show an isolation point between the smart meter box and arrow head.	AEMO agrees with the respondent’s comment and will fix the diagram.
19.	14. SHARED FUSE ARRANGEMENTS	Vector Metering	There is no need to differentiate between NMI’s are part of a shared fuse installation but can be isolated ( ‘I’ ) and NMI’s that are not on a shared fuse ( ‘N’ ). Both these Meters are not subject to shared fusing requirements and will be treated the same. Vector recommends values should be ‘S’hared fusing, ‘I’solated fusing and ‘U’nkknown;	AEMO notes the respondent’s comment and refers to the response in Table 2, item 42.
20.	14. SHARED FUSE ARRANGEMENTS	Vector Metering	Diagram 4 is unnecessary.	AEMO will retain Diagram 4 as it provides clarity of the different arrangements that can exist.

**Table 6 Proposed Changes in Exemption Procedure Meter Installation Malfunctions**

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
1.	1.1	AGL	Noted – No Comment	
2.	1.1	Alinta Energy	Agreed	AEMO notes respondent’s support for the proposed change.
3.	1.1	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes respondent’s support for the proposed change.
4.	1.1	Ausgrid	Agree	AEMO notes respondent’s support for the proposed change.
5.	1.1	AusNet Services (inclusive of Mondo)	No comment	
6.	1.1	Energy Australia	EnergyAustralia support the removal.	AEMO notes respondent’s support for the proposed change.
7.	1.1	Energy Queensland	We have no comment on this change.	
8.	1.1	Intellihub	Agreed	AEMO notes respondent’s support for the proposed change.
9.	1.1	Origin Energy	Noted.	
10.	1.1	Powermetric	No comments	
11.	1.1	Red and Lumo	No comment at this time	
12.	2.2	AGL	Noted – No Comment	
13.	2.2	Alinta Energy	Agreed	AEMO notes respondent’s support for the proposed change.
14.	2.2	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes respondent’s support for the proposed change.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
15.	2.2	Ausgrid	Agree	AEMO notes respondent's support for the proposed change.
16.	2.2	AusNet Services (inclusive of Mondo)	No comment	
17.	2.2	Energy Australia	EnergyAustralia support the removal.	AEMO notes respondent's support for the proposed change.
18.	2.2	Energy Queensland	We have no comment on this change.	
19.	2.2	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.
20.	2.2	Origin Energy	Noted.	
21.	2.2	Red and Lumo	No comment at this time	
22.	Appendix A	AGL	Noted – No Comment	
23.	Appendix A	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
24.	Appendix A	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes respondent's support for the proposed change.
25.	Appendix A	Ausgrid	Agree	AEMO notes respondent's support for the proposed change.
26.	Appendix A	AusNet Services (inclusive of Mondo)	No comment	
27.	Appendix A	Energy Australia	EnergyAustralia support the removal.	AEMO notes respondent's support for the proposed change.
28.	Appendix A	Energy Queensland	We have no comment on this change.	



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
29.	Appendix A	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.
30.	Appendix A	Origin Energy	Noted.	
31.	Appendix A	Red and Lumo	No comment at this time	
32.	Appendix B	AGL	Noted – No Comment	
33.	Appendix B	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
34.	Appendix B	Aurora Energy	Aurora Energy supports the Proposed changes	AEMO notes respondent's support for the proposed change.
35.	Appendix B	Ausgrid	Agree	AEMO notes respondent's support for the proposed change.
36.	Appendix B	AusNet Services (inclusive of Mondo)	No comment	
37.	Appendix B	Energy Australia	EnergyAustralia support the removal.	AEMO notes respondent's support for the proposed change.
38.	Appendix B	Energy Queensland	We have no comment on this change.	
39.	Appendix B	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.
40.	Appendix B	Origin Energy	Noted.	
41.	Appendix B	Red and Lumo	No comment at this time	

**Table 7 Proposed Changes in Retail Electricity Market Procedures - Glossary and Framework**

No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
1.	5. GLOSSARY Controlled Load	Endeavour Energy	A controlled load can be controlled by a metering installation or a network device. Also a controlled load must be separately metered from the remaining load at a metering point. Therefore for clarity we suggest that the definition of 'controlled load' be updated to: Load that is controlled by the metering installation or a network device and is separately metered from the remaining load at a metering point. The majority of Controlled Loads are associated with off-peak hot water, pool pumps and conditioning units.	AEMO accepts adding 'or a network device', however, will retain the rest of definition as is. New definition is: Load that is controlled by the metering installation (e.g. frequency injection relay or time clock) or a network device and may be separately metered from the remaining load at a metering point. The majority of Controlled Loads are associated with off-peak hot water, pool pumps and air conditioning units.
2.	5. GLOSSARY Shared Fuse Arrangement	AGL	AGL thinks that this definition is somewhat confusing and suggests something like: <a href="#">Shared Fuse Arrangement is where multiple NMIs being supplied via a common isolation point. This is specified in detail in Metrology Procedure: Part A and is recorded via an MSATS flag.</a>	AEMO notes the respondent's suggestion and the new definition is: Shared Fuse Arrangement is where multiple NMIs are supplied via a common isolation point. This is specified in detail in Metrology Procedure: Part A and is recorded via an MSATS flag.
3.	5. GLOSSARY Shared Fuse Arrangement	Alinta Energy	Agreed	AEMO notes respondent's support for the proposed change.
4.	5. GLOSSARY Shared Fuse Arrangement	Aurora Energy	Aurora Energy supports the proposed change	AEMO notes respondent's support for the proposed change.
5.	5. GLOSSARY Shared Fuse Arrangement	Ausgrid	Agree	AEMO notes respondent's support for the proposed change.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
6.	5. GLOSSARY Shared Fuse Arrangement	AusNet Services (inclusive of Mondo)	No comment	
7.	5. GLOSSARY Shared Fuse Arrangement	Endeavour Energy	The Shared Point Isolation Flag is proposed to be in the CATS_NMI_Data table, which is not at a meter level. Therefore, for avoidance of confusion we suggest removing the last part of the definition and update the definition to be: Shared Fuse Arrangement is covered by the Shared Point Isolation Flag in MSATS	AEMO notes the respondent's comment and refers to the response in Table 7, item 2.
8.	5. GLOSSARY Shared Fuse Arrangement	Energy Australia	EnergyAustralia support the drafting.	AEMO notes respondent's support for the proposed change.
9.	5. GLOSSARY Shared Fuse Arrangement	Energy Queensland	Energex and Ergon Energy note that the definition of Shared Fuse Arrangement indicates it can be at a connection point or at the meter while Metrology Procedures: Part A, section 14 (a-c) indicates it is only related to the connection point. Energex and Ergon Energy suggest the definition is updated to remove the reference to 'at the meter'.	AEMO notes the respondent's comment and refers to the response in Table 7, item 2.
10.	5. GLOSSARY Shared Fuse Arrangement	Intellihub	Agreed	AEMO notes respondent's support for the proposed change.
11.	5. GLOSSARY Shared Fuse Arrangement	Origin Energy	The glossary definition of 'Shared Fuse Arrangement' does not define a Shared Fuse arrangement. Instead it states how it is recorded. The definition in the glossary should be updated to be more in line with the NER's description of the circumstances (7.8.10 (a)(2)(ii): "A Shared Fuse Arrangement occurs when interrupting supply to a connection point requires interrupting supply to one or more other connection point(s)"	AEMO notes the respondent's comment and refers to the response in Table 7, item 2.



No.	Section No / Field Name	Consulted person	Respondent Comments	AEMO response
12.	5. GLOSSARY Shared Fuse Arrangement	PLUS ES	Current drafting: Shared Fuse Arrangement is covered by the Shared Point Isolation Flag in MSATS which can be at a connection point or at the meter. <ul style="list-style-type: none"> <li>• Meter should be metering installation</li> <li>• Definition should perhaps explain what a shared fuse arrangement is. i.e. isolation point of supply shared with more than one NMI etc</li> </ul>	AEMO notes the respondent's comment and refers to the response in Table 7, item 2.
13.	5. GLOSSARY Shared Fuse Arrangement	Powermetric	No comments	
14.	5. GLOSSARY Shared Fuse Arrangement	Red and Lumo	No comment at this time	
15.	5. GLOSSARY Shared Fuse Arrangement	Vector Metering	Suggest the following definition. Shared Fuse Arrangement indicates whether a connection point can be physically deenergised without impacting supply at any other connection point.	AEMO notes the respondent's comment and refers to the response in Table 7, item 2.

**Table 8 Other Issues Related to Consultation Subject Matter**

No.	Consulted person	Heading	Respondent Comments	AEMO response
1.	AGL	Solar Smart Homes – SA	As noted in the meter types, if the SA government makes changes to the metering requirements) there may need to be further enumerations to define a controlled Solar / PV system from an uncontrolled Solar/PV system.	AEMO notes the respondent’s comment and refers to the response in Table 4, item 60.
2.	AusNet Services (inclusive of Mondo)	GPS Co-ordinates for large HV metered customers	Perhaps there could be some security and privacy issues that should be considered if prescriptive asset location details, particularly for some critical HV metered customers (e.g. Dept of Defense sites) are stored in MSATS, and participants systems, and published more broadly compared to today. This may require sites to be exempt from provision of accurate GPS location details to be provided to the market.	AEMO notes the respondent’s feedback. GPS coordinates are Required for NMI’s with remotely read meters and the structure/accuracy is ‘up to 7 decimal places’. The data in MSATS is only for the participant roles which have the necessary permitted access rights, subject to their relevant privacy and security obligations.
3.	AusNet Services (inclusive of Mondo)	Alignment of changes with other industry initiatives	Preferably we should avoid incremental changes to the 5MS/GS scope of work. Would recommend commencing the MSRSD data transition window at the tail end of 5MS/GS go-live. (Oct 2021).	AEMO notes the respondent’s concerns with time to prepare for the changes and refer to the exercise AEMO is currently performing an exercise to prioritise the regulatory program in recognition of the current regulatory burden. AEMO is identifying proposed timing and sequencing of other regulatory initiatives to better manage the implementation program and this will include providing more than 8 months notice of the effective date for these changes. The prioritisation is being consulted with industry.
4.	CitiPower Powercor	Retrospective CRs	CitiPower Powercor seeks clarification on retrospective CRs, following commencement of the Standing Data changes retrospective CRs will only contain new and/or amended fields.	Yes, AEMO confirms that retrospective CRs will only contain new and amended and retained fields.
5.	CitiPower Powercor	Timeframe for implementation	As 5MS and GS effective dates have only been delayed by three months CitiPower Powercor recommends that the commencement of MSATS Standing Data changes also be delayed to March 2022. This is so as not have too many major changes commencing at the same time and allow participants time to stabilise their 5MS deployments.	AEMO notes the respondent’s comment and refers to the response in Table 8, item 3.





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6.	Endeavour Energy	Meter Malfunction Exemption Details	We note that AEMO will consider adding a reason/category for the Meter Malfunction Exemption, which may contain Family Failure as an option, at the time AEMO works on the exemption automation. We support the addition of this information and making it available in MSATS. This information will help participants better understand the nature of the malfunction and start an appropriate discussion with the MC if required.	AEMO notes the respondent's support for inclusion a reason/category field for the Meter Malfunction Exemption.
7.	Endeavour Energy	Shared Fuse Arrangement	<p>The AEMC stated "The Commission recommends that retailers access to NMI Standing Data, in particular to the current retailer (or FRMP) be reviewed, and AEMO investigate the development of a NMI Discovery Search 4 which would provide retailers with this data for the express purpose of coordinating retailer planned interruptions where there is shared fusing only." (Page 57, final determination for Introduction of metering coordinator planned interruptions).</p> <p>We suggest that AEMO re-consider our suggestion to introduce a Shared Isolation Point ID and NMI Discovery 4 in our previous feedback.</p>	AEMO considered/investigated the creation of a NMI Discovery 4, however, by providing the Shared Point Isolation Flag to the FRMP via NMI Discovery 2 then the FRMP can identify if it needs to approach the LNSP to see who else may be affected.
8.	Endeavour Energy	Structure and scope of documents	<p>AEMO provided a response to one of Endeavour Energy's feedback on the 1st draft determination as follow:</p> <p>AEMO clarifies that the Standing Data for MSATS is not a guideline, it is an MSATS Supporting Document as per section 4.2 of the Glossary and Framework Document.</p> <p>We believe that a supporting document cannot contradict the procedural document it is supporting and that a supporting document cannot place additional obligations on participants when compared to the procedural document it is supporting.</p> <p>The Standing Data for MSATS document is evolving to include more obligations in which participants are expected to comply with that is not already defined in a corresponding procedure.</p> <p>For the avoidance of any confusion we encourage AEMO to consider the structure of their library of documents to ensure that obligations are captured in procedures and not supporting documents. We note that the majority of sections 4 to 11 of the Standing Data for MSATS document is primarily defining obligations, for example who has to provide the data, when the data is required and what values must be provided for specific</p>	AEMO notes the that the Standing Data for MSATS is a supporting document to multiple procedures in the Retail Electricity Market Procedures, not just the CATS procedure. To avoid any doubt about consultation practices, AEMO has added to the Purpose and Scope of the Standing Data for MSATS document 'This document forms part of each of the Retail Electricity Market Procedures and will be amended when another Retail Electricity Market Procedure requires amendment. The consultation process applicable to the relevant Retail Electricity Market Procedure will also apply to the necessary amendments to this document.'

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			<p>metering installation configurations, and therefore should be in the CATS procedures. The majority of section 12 onwards of the Standing Data for MSATS document is primarily defining technical matters and providing examples and therefore could be in a supporting document like the Standing Data for MSATS.</p> <p>In addition, by leaving clauses that define obligations in a supporting document means that AEMO does not have to follow the Rules consultation procedures (as defined in section 8.9 of the NER) and therefore means that changes can be made with minimal consultation – this has occurred before and we believe is not in alignment with the intent of the Rules, which is any obligations market participant must comply with should be in a procedure and any changes to that procedure must follow the Rules consultation procedures.</p>	
9.	Origin Energy	MSATS Standing Review - Issues Paper 2020	<p>General Question:                      In the original issues paper (Section 5.3 – Issue Prioritisation and Implementation Details), AEMO proposed the following timeframes for implementation:  <i>December 2020 MSATS Release with effective date of 1 July 2021 Two new fields and one modified field as identified in Section 3 to support the following rule changes:</i></p> <ul style="list-style-type: none"> <li><i>o National Electricity Amendment (Five Minute Settlement) Rule 2017 No.15;</i></li> <li><i>o National Electricity Amendment (Global settlement and market reconciliation) Rule 2018 No. 14</i></li> <li><i>o Draft National Electricity Amendment (Introduction of metering coordinator planned interruptions) Rule 2020</i></li> <li><i>o The proposed new fields are: Shared Isolation Points Flag which is outlined in Section 3.1.4; and TNI2 which is outlined in Section 3.2.3.</i></li> <li><i>o The field to be amended is Meter Read Type Code, outlined in Section 3.1.1.</i></li> </ul> <p>With the change to implementation date to 5 Minute Settlements, can AEMO confirm whether these dates have changed or are still scheduled to go ahead in December 2020?</p>	<p>AEMO notes the changes related to 5MS and GS will be included in the appropriate system release for the revised 5MS and GS effective dates is now March and April 2021. Please refer to your 5MS program representative.</p> <p>AEMO will include the changes for the Introduction of metering coordinator planned interruptions Rule Change in the March 2022 effective date procedures and documents changes.</p>



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10.	Origin Energy	MSATS Procedures – CATS 10.4.4(d) & 10.5.4(d)	<p>The Meter Manufacturer and Meter Model has been added as an obligation for the MC to populate within a CR 3080/81/90/91 . Origin Energy suggest as these meter details are not always available to the MC, the obligation would sit more appropriately with the MPB who would have the metering details.</p> <p>In addition, these are already an obligation on the MPB for CR 3000/01/04/05/50/51.</p>	AEMO notes the respondent’s comment and refers to the response in Table 2, item 198.
11.	PLUS ES	Contents Table Standing Data for MSATS	Table 49 – Error! Book mark not defined	AEMO will fix this linkage.
12.	PLUS ES	Enumerations Standing Data for MSATS	PLUS ES supports a consistent and standard way of providing information in MSATS, to drive efficiencies across the Market. Consideration must be given to existing or proposed enumerations to avoid introducing additional data records which are available or can be deduced from other existing fields.	AEMO notes the respondent’s comment and all enumerations are as per consultation with industry.
13.	PLUS ES	Shared fuse arrangements	<p>PLUS ES supports the changes drafted to meet the requirements of the NER rules recently implemented for shared isolation points.</p> <p>PLUS ES further recommends figure 2 below to be considered as an additional proposal to the current draft. Capturing the additional link between the shared isolation point and the directly impacted meters would drive further efficiencies across Retailers, MCs and DNSPs, such as but not limited to:</p> <ul style="list-style-type: none"> <li>• a reduction of costs: avoid unnecessary visits to sites, communications to customers which are not impacted by the planned interruption</li> <li>• streamlined utilisation of resources, better management and compliance to timeframes</li> <li>• better outcome for customers, irrespective if they are the requesting party for the metering installation or just an impacted consumer of the planned interruption.</li> </ul> <p>The NER does discuss shared fuse arrangements and figure 2 is a depiction of existing valid shared fuse arrangements.</p>	AEMO has adopted the process for the Shared Fuse Arrangements in a manner consistent with the National Electricity Amendment (Introduction of metering coordinator planned interruptions) Rule 2020 No. 7 and applied the obligations for record keeping to the LNSP. AEMO does not intend to expand the obligations beyond those consistent with the rule change. AEMO suggests that LNSPs may wish to consider keeping records to capture the additional link between the shared isolation point and the directly impacted meters.

Figure 1 Current drafted Shared Isolation fields

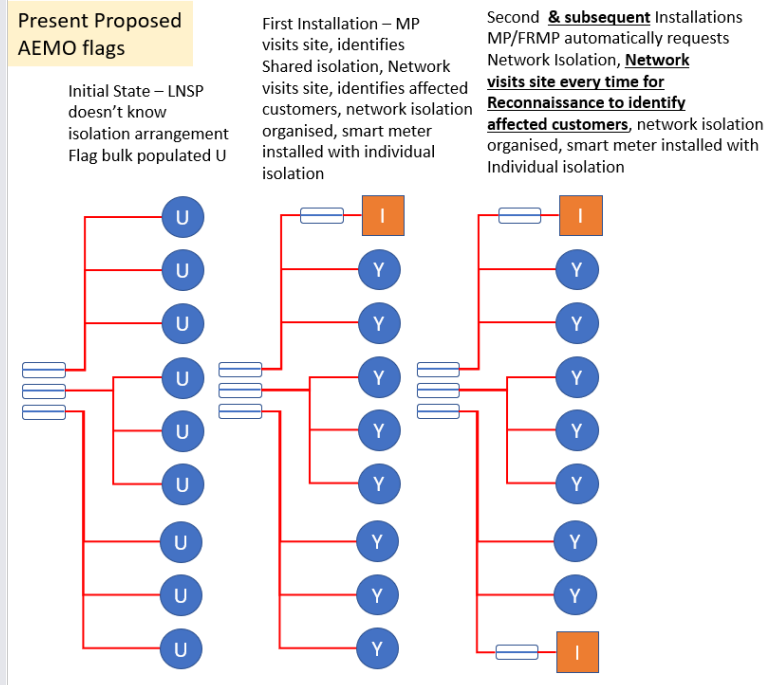
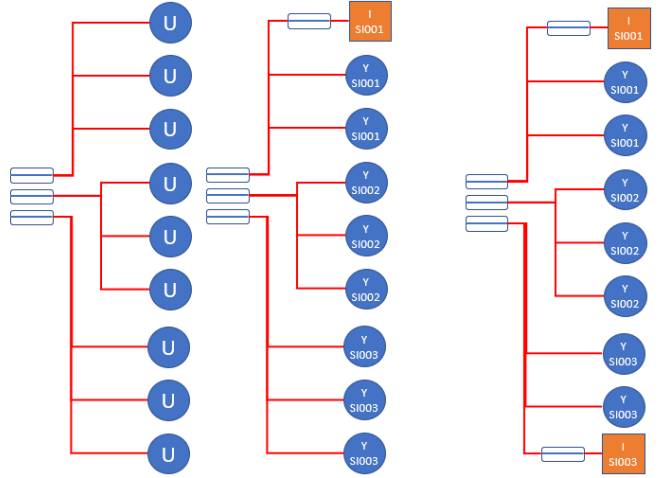


Figure 2: Alternative Proposal



No.	Consulted person	Heading	Respondent Comments	AEMO response
			<p><b>Alternative</b></p> <p>Initial State – LNISP doesn't know isolation arrangement Flag bulk populated U</p> <p>First Installation – MP visits site, identifies Shared isolation, Network visits site, identifies affected customers, network isolation organised, smart meter installed with individual isolation. All sites identified.</p> <p>Second and subsequent isolation MP can see from Flag and Index that Network Isolation required Network. <b>Network does not need to visit site to do reconnaissance, appointment set only for customers connected to SI003 Shared Isolation</b></p> 	
14.	PLUS ES	General comments	<p>For convenience, AEMO to consider repeating the header row of the table on the top of each page, where the table breaks across pages. Especially, where the table contains numerous columns. It makes it difficult for the end user to follow efficiently.</p>	<p>AEMO agrees with the respondent's suggestion and will fix where appropriate.</p>
15.	Red and Lumo	8.2 Network Tariff Code	<p>In relation to question 29 to comment on options 1 and 2 provided by Endeavour Energy: AEMO misrepresented the views of Red Energy and Lumo Energy in its Second Draft Report and Determination..</p>	<p>AEMO notes the respondent's comment. The review of Network Tariff Code has been referred to the Electricity Retail Consultative Forum (ERCF) to be outworked.</p>

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			<p>Red and Lumo support for option 1, with a further requirement for there to be an obligation on the MPB to update the NTC in the event of works they have undertaken themselves, such as metering change.</p> <p>However, in its summary AEMO noted that Red Lumo supported option 1 but this was followed by <i>'Option 2 was not supported by...Red Lumo for specified reasons, but nor did they indicate support for Option 1'</i>. These two statements contradict each other and are not representative of the response by us.</p> <p>We strongly support a timely consultation on the NTC, which we highlighted in our initial response. As noted in our initial response, there is a large volume of NTCs that are incorrect and once AEMO's consultation is finalised, there will be a large volume to be rectified. As many retailers base their retail tariffs on network tariffs, this will have a direct impact on consumers. Timely rectification of this issue is essential.</p>	
16.	SA Power Networks	Transition Timeframes	<p>Where final changes result in data being required to be provided to MSATS by participants, a minimum of 12 months (or longer timeframe if agreed with AEMO) should be provide from the effective date of the new obligations to complete this work. Participants should be provided with time to populate data in the most efficient manner possible that does not impose unwarranted cost to industry and customers.</p>	AEMO notes the respondent's comment and refers to the response in Table 8, item 3.
17.	SA Power Networks	Effective Date of Changes	<p>SA Power Networks understands that there are a number of industry changes proposed for Q3 or Q4 2021 – with a number of these final delivery timeframes yet to be determined.</p> <p>Given the current changes to the go live dates for 5MS/GS rule changes (5MS now commencing 1 October 2021), SA Power Networks requested that the earliest that any changes linked to this MSATS Standing Data Review (MSDR) occur is late within Q1 2022 (as previously indicated, MSDR changes can occur over 2 stages/phases of release, we support this phased approach and would expect the 2nd stage occurring in late 2022).</p> <p>The approach for MSDR is required to ensure we have the capacity to deliver all the required internal work across the full range of industry changes.</p>	AEMO notes the respondent's comment and refers to the response in Table 8, item 3.



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18.	United Energy	Retrospective CRs	United Energy seeks clarification on retrospective CRs, following commencement of the Standing Data changes retrospective CRs will only contain new and/or amended fields.	AEMO notes the respondent's comment and refers to the response in Table 8, item 4.
19.	United Energy	Timeframe for implementation	As 5MS and GS effective dates have only been delayed by three months United Energy recommends that the commencement of MSATS Standing Data changes also be delayed to March 2022. This is so as not have too many major changes commencing at the same time and allow participants time to stabilise their 5MS deployments.	AEMO notes the respondent's comment and refers to the response in Table 8, item 3.
20.	Vector Metering	Notification of effective date of procedures.	Vector believes the changes proposed in this consultation represent a material impact on participants existing IT systems and processes. Some of these changes impact field tools used by meter technicians which will need to be enhanced by Vendors to capture new information E.g. GPS locations, Connection configuration etc. Back office processes and data repositories will need to be enhanced to support the new data collected and participant systems will need to generate and consume changes to over 20 CATS CRs and notifications, in addition to enhanced NMI discovery and CATS reports (C4, C7 etc) transactions. Participants will also be required to potentially build one-off processes to update MSATS in bulk. A change of this magnitude requires more than 8 months' notice of effective date. Vector recommends at least 15 months should be given.	AEMO notes the respondent's comment and refers to the response in Table 8, item 3.