MSATS STANDING DATA REVIEW

SECOND DRAFT REPORT AND DETERMINATION

Published: **3 July 2020**

NOTICE OF THIRD STAGE CONSULTATION – MSATS STANDING DATA REVIEW

National Electricity Rules – Rule 8.9

Date of Notice: 3 July 2020

This notice informs all Registered Participants, Metering Providers, Metering Data Providers, Embedded Network Managers, Ministers and the Australian Energy Regulator (AER) (Consulted Persons) that AEMO is conducting a consultation on proposed amendments to the Market Settlement and Transfer Solution (MSATS) Procedures as part of proposed changes to MSATS Standing Data in the National Electricity Market (NEM).

This consultation is being conducted under clause 7.16.7 of the National Electricity Rules (NER), in accordance with the Rules consultation requirements detailed in rule 8.9 of the NER.

Invitation to make Submissions

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

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

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

Closing Date and Time

Submissions in response to this Notice of Third Stage of Rules Consultation should be sent by email to NEM.Retailprocedureconsultations@aemo.com.au, to reach AEMO by 5.00pm (Melbourne time) on 27 July 2020.

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

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

Publication

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

EXECUTIVE SUMMARY

The publication of this Second Draft Report and Determination (Second Draft Report) commences the third stage of the Rules consultation process conducted by AEMO (Third Stage Consultation) on proposed amendments to the Market Settlement and Transfer Solution (MSATS) as part of proposed changes to the Standing Data of the MSATS Procedures (MSATS Standing Data) in the National Electricity Market (NEM).

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 which involved the addition of, updates to, or removal of fields in the MSATS Procedures in respect of data in the following information 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 includes 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. 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 (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.

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 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).

In addition, the feedback from the first stage Consultation (First Stage Consultation) indicates general agreement on various changes which AEMO proposes to MSATS Standing Data including:

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

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.

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.

These submissions respond to questions posed 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 are addressed in this 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, this second draft determination proposes amending various clauses in the MSATS Procedures, Metrology Procedure Part A, Retail Electricity Market Procedures – Glossary and Framework, Exemption Procedure – Meter Installation Malfunctions and the Standing Data for MSATS document.

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

CONTENTS

1. STAKEHOLDER CONSULTATION PROCESS

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

AEMO previously advised that it had extended the consultation process by adding a third stage of consultation (Third Stage Consultation), in respect of this Second Draft Report and Determination, which are to be published on 3 July 2020. The Final Report and Determination (Final Report) is to be published on 7 September 2020, instead of 17 July 2020, as had been indicated initially.

This extension was required for AEMO to consider and evaluate the complex issues arising from stakeholder submissions provided in respect of its First Draft Report and Determination (First Draft Report), including matters relating to data transition, as well as the interdependencies among various rule and procedural changes.

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

Deliverable	Indicative date
First Stage Consultation	
Issues Paper published	24 February 2020
Submissions due on Issues Paper	31 March 2020
Second Stage Consultation	
First Draft Report published	14 May 2020
Submissions due on First Draft Report	5 June 2020
Third Stage Consultation	
Second Draft Report and Notice of Consultation, MSATS Procedures	3 July 2020
Submissions due on Second Draft Report	27 July 2020
Final Stage	
Final Report and Determination	7 September 2020

Prior to the submission due date, stakeholders can request a meeting with AEMO to discuss the issues. The publication of this Second Draft Report marks the commencement of the Third Stage Consultation.

A glossary of terms used in this Second Draft 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. 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) and the Australian Energy Market Commission (AEMC).

Various NEM reform and rule change projects could impact 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 (currently referred to the COAG Energy Council Standing Committee of Officials).
- Stand-Alone Power Systems.
- Wholesale Demand Response.

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)[1].

The MSDR Guiding Principles include 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:

[1] 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 includes details on 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 includes 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. 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. This information is available on AEMO's website.

The First Draft Report includes 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.

3. SUMMARY OF MATERIAL ISSUES

The key material issues AEMO identified during its review of the submissions in respect of the Second Stage Consultation, which arise from the proposal and raised by Consulted Persons, are as follows:

No.	Issue	Raised by
1.	Shared Fuse Details	Multiple Respondents
2.	GPS Coordinates	Multiple Respondents
3.	Data Transition	Multiple Respondents

Section 4 of this Second Draft Report provides AEMO's assessment of the issues and AEMO proposals as to addressing the 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

AEMO proposed a separate Shared Isolation Points flag in the Issues Paper, to be populated by the LNSP with "Yes", "No", and "Unknown" as allowable values. All respondents were supportive of this proposal. For example, EnergyAustralia noted that *"Identification of shared fusing prior to attending site will limit any NACKing of service orders."*.

AEMO raised two questions in the Issues Paper:

- Are the values sufficient? What additional information should be provided, and how could it be validated?
- Should "Unknown" be able to be changed into "Yes" / "No"?

Ausgrid and AusNet Services stated that the "Unknown" value was raised in the Issues Paper but not reflected in the drafting provided in the Standing Data for MSATS document. Ausnet Services noted that *"The format [of the CHAR(2) field in Table 4 of the CATS_METER_REGISTER] requires updating to cater for AEMO's proposal to include "Unknown."*

The majority of respondents were supportive of the inclusion of the "Unknown" value. However, AGL, CitiPower Powercor and United Energy raised issues. AGL stated, "*Unknown is not definitive*". CitiPower Powercor and United Energy expressed a preference for the flag either being "Yes" or blank. AEMO notes that it is not possible for a "Mandatory" field to be blank. AusNet Services stated, *"the use of "Unknown" will be used as the default position for the LNSP until a site visit occurs and a shared fuse scenario can be confirmed"*. Energy Australia also proposed placing an onus on LNSPs to provide accurate and up-to-date information.

AusNet Services and TasNetworks both recommended that the field should be included in the CATS NMI DATA table instead of CATS METER REGISTER.

In addition, AEMO received feedback discussing which participant category should be responsible for updating the proposed field. Origin Energy noted, there *"needs to be a clear understanding on who will update/maintain this information"*. Vector Metering stated, *"MP's responsible for legacy metering should be required to reflect the status on all meters"*. However, PLUS ES commented, *"LNSPs are best positioned to do this as they are the common participant"* in shared fuse scenarios.

AEMO noted this field is subject to any changes from the AEMC's Final Determination in respect of the Introduction of Metering Coordinator Planned Interruptions Rule Change (ERC0275). As such, further document updates and appropriate procedure changes may need to be introduced, once the rule change is finalised.

The allowable values for the field are now "Y" (Yes), "N" (No) or "U" (Unknown). As Mandatory fields cannot be left blank, "Unknown" is a suitable default value. AEMO considers that an "Unknown" value in the field is

preferable to defaulting "Yes" or "No" as to whether a shared isolation point is present. AEMO proposes to change the location of the new field from the meter register table to the NMI Data table, based on the feedback from AusNet Services and TasNetworks.

AEMO proposed to assign the responsibility to the Local Network Service Provider (LNSP) to provide the data. The MSATS Procedures: Consumer Administration and Transfer Solution Procedure Principles and Obligations (MSATS Procedures: CATS Procedure), section 2.1, clause (h), obliges participants to keep information in MSATS up to date. Any MPs that identify shared fusing should advise the LNSP to ensure the data is updated in MSATS. This raises the question of the best way for relevant Meter Coordinators (MCs) and MPs to inform LNSPs of status changes.

To support the proposed Shared Isolation Points flag, in the First Draft Report, AEMO asked for comments from stakeholders about the mechanism through which a MC or MP can communicate with an LNSP to instigate shared isolation point status changes. AEMO received the following responses:

- AGL highlighted the existence of multiple mechanisms by which the information could be communicated including email, MSATS Change Requests (MSATS CRs) or B2B transactions.
- AGL, CitiPower Powercor, Energex, Ergon Energy, Metering Dynamics, EnergyAustralia, Evoenergy, Intellihub, Origin Energy, TasNetworks, United Energy and Vector Metering indicated B2B transactions as their preferred option.
- AusNet Services, Endeavour Energy and SA Power Networks indicated email as their preferred option.
- Endeavour Energy and SA Power Networks highlighted that, were B2B transactions to be used, the volumes would need to be warranted.
- Plus ES indicated MSATS CRs as its preferred option.
- Ausgrid requested that MPs be included in populating the Shared Isolation Points flag. Powermetric Metering requested that MCs and MPs be included.
- Ausgrid and Origin Energy suggested that MSATS include a grouping ID, to indicate which NMIs are associated with others under the shared fuse arrangements.

4.1.2 AEMO's assessment

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.

On 21 May 2020, the AEMC published its Final Determination in respect of the Introduction of Metering Coordinator Planned Interruptions Rule Change (Rule Change ERC0275). AEMO has reviewed the obligations determined in Rule Change ERC0275. To deliver Rule Change ERC0275, AEMO proposes that changes occur in the:

- Metrology Procedure Part A;
- Retail Electricity Market Procedures – Glossary and Framework;
- Exemption Procedure – Meter Installation Malfunctions;
- MSATS Procedures: CATS Procedure;
- MSATS Procedures: Procedure for the Management of Wholesale, Interconnector, Generator and Sample NMIs (MSATS Procedures: WIGS Procedure); and
- Standing Data for MSATS document.

The allowable values for the field are now proposed to be "Y" (Yes), "I" (Isolated), "N" (No) or "U" (Unknown), to capture the different connection scenarios.

Under Rule Change ERC0275, LNSPs are responsible for recording all connection points with shared fuse arrangements as soon as practicable after becoming aware of the arrangements. LNSPs will be responsible for updating MSATS, as the holders of all the shared fuse information. Therefore, AEMO does not propose to allow for MC or MP updates as they will not be the primary holders of this information. The overarching principle for MSATS is that CRs be provided by one party only (a few exceptions exist, eg, Network Tariff Code). Therefore, the communication tool cannot be by means of the Financially Responsible Market Participant (FRMP) or MC changing data in MSATS. The field is LNSP only.

AEMO does not propose to include a grouping ID in MSATS. The LNSP has been assigned coordination ownership of the information under Rule Change ERC0275. The grouping ID is part of records that LNSPs may wish to keep. MSATS only requires the identification of the shared isolation point arrangement for a metering installation.

4.1.3 AEMO's conclusion

AEMO intends to obligate the LNSP to maintain the Shared Isolation Points flag in MSATS and to identify the process for Shared Fuse Arrangements in the Metrology Procedure Part A, in a manner consistent with Rule Change ERC0275.

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 received the following additional feedback in the Second Stage Consultation:

- *"Please indicate the benefits for expanding the GPS coordinates field to cover all NMIs given this would be a significant cost? For example, some multi-floor buildings would have the same GPS coordinates so you may also need to have elevation for which floor (assuming metering on each unit)?"*

Consulted person	Feedback summary
AGL, EnergyAustralia, Red Energy and Lumo Energy, SA Power Networks	Benefits across all NMIs
Ausgrid	Benefits for rural but not urban
AusNet Services, Endeavour Energy, Ergon, Energex, TasNetworks	As distribution networks, significant costs of obtaining GPS coordinates
AusNet Services	Potential for meters at rural sites, but require long transition period for collection
AusNet Services	Any Victorian benefits would be very low, as most sites already covered by interval meter rollout, plus government intends to keep DNSP as MC.
AusNet Services	Questioned how this would apply to sites with no access issues
CitiPower Powercor and United Energy	Benefit only if applied for new NMIs
Endeavour Energy	Long term customer benefits could be obtained from having GPS coordinates for meters
Ergon, Energex and Metering Dynamics	Potential for meters for rural/remote areas, or when MP churns
ERM Power	Noted the current proposed solution creates overhead
Evoenergy	As distribution network, no apparent benefits for obtaining GPS coordinates
Intellihub	Benefits for rural
Origin Energy	Benefits for rural or multi metered sites
Plus ES	Only where current geographical identification fields do not identify a meter location
Powermetric Metering	Current proposal is sufficient
Vector Metering	Benefits for manually read meters, but costs if applied to existing contestable meters

- *"AEMO has applied the definition of rural using the 'Designated regional area postcodes' to gain consistency in approach, however feedback indicates a mixed response to this option. Is there an alternate NEM wide definition that can be applied across the NEM? AEMO notes, for example, in Queensland NMIs are required to be classified as urban, short rural and long rural for Guaranteed Service Levels. Is there something similar in other jurisdictions and can it be applied there?"*

Consulted person	Feedback summary
AGL	No position on definition
Ausgrid	Prefer council zoning definitions
AusNet Services	Feeder length (as per AER definition, eg, short rural, long rural) and postcode combination
CitiPower Powercor, United Energy	Prefer DLFs to identify rural short, rural long, urban short and urban long.
Endeavour Energy	If captured for all manually read meters, new connections and meter exchanges, then no need to define rural
Ergon	Feeder length (as per AER definition, eg, short rural, long rural)
Energex	Classify rural as designated distance from designated metro centre
EnergyAustralia, Powermetric Metering, Red Energy and Lumo Energy	All meters, not just rural - removes confusion on a rural definition
ERM Power	All meters capable of capturing coordinates, rather than rural
Evoenergy	Required only field
Origin Energy	Metro, regional and remote
Plus ES	Does not support Designated regional area postcodes either
SA Power Networks	Allow exclusion of major regional centres/townships that would fall within post code areas
Vector Metering	Current proposed solution creates overhead once process is developed for some meters, process should be applied to all.

- *"Do you agree with AEMO's proposal? If yes, why? If no, why not? Please provide reasons."*

Consulted person	Feedback summary
AGL	Support for all meters and unmetered connections, GPS will provide benefits in locating all

Consulted person	Feedback summary
Ausgrid	Costs associated with capture; field should be Required; agree for rural installations, new and replacement, where accurate GPS coordinates can be obtained
AusNet Services, CitiPower Powercor, United Energy	Do not support definition for rural
Endeavour Energy	Support objective for long term customer benefits could be achieved from GPS coordinates
Ergon, Energex and Metering Dynamics	Support principle for Type 1-4 meters; note significant cost for Type 6 meters
EnergyAustralia, Origin Energy, Red Energy and Lumo Energy	Support for all meters, due to customer benefits
ERM Power	Support GPS coordinates, regardless of region
Evoenergy	As distribution network notes costs; support for meter exchanges, meter churns and new connections
Intellihub	Support approach applied to all MPBs.
Plus ES	Does not support due to costs; only where current geographical identification fields do not identify meter location.
Powermetric Metering	Supports approach, particularly for large C&I and SME sites
SA Power Networks	Supports draft proposal
TasNetworks	As distribution network, costs outweigh benefits
Vector Metering	Benefits for manually read meters but costs if applied to existing contestable meters

4.2.2 AEMO's assessment

AEMO reviewed the mixed responses received, noting:

- long-term benefits for customers of GPS coordinates for all meters across all NMIs;
- 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 proposes to make GPS coordinates Required for all NMIs for three years (36 months) from the effective date, then Mandatory thereafter, to enable a suitable transition period for collection.

AEMO notes AusNet Services concerns, responding that:

- where no access issues exist, AEMO will review the issue prior to the end of the 36 month Required period; and

- in Victoria, where the AMI derogation may change in the future, AEMO notes one of the MSDR Guiding Principles is for the changes to be future focused as well as the GPS coordinates providing benefits nationally.

4.2.3 AEMO's conclusion

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

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.

4.3.1 Issue summary and submissions

The First Draft Report considered the following three option scenarios:

- Scenario 1 – Remove existing fields– "To Remove" e.g. Meter Constant to be removed from CATS_METER_REGISTER table.
- Scenario 2 – Introduce new fields – "Proposed Field" e.g. Meter Malfunction Exemption Number is introduced.
- Scenario 3 – Amend existing fields/ processes – "To Amend" e.g. Controlled Load field is amended to be enumerated.

The various elements of MSATS Standing Data require data population in each of the scenarios. In the First Draft Report, AEMO described proposed solutions for each scenario, requesting feedback to understand industry issues, concerns or alternatives.

Scenario 1 had a clear majority of support in submissions. AGL, CitiPower Powercor and United Energy preferred retaining the ability to retrieve or extract the relevant information. Until a date to be determined, participants will be able to request an MSATS snapshot, to retrieve the information they require. AGL also suggested a working group to develop the most efficient data update mechanism.

4.3.2 AEMO's assessment

AEMO did not receive a majority or consensus response to most questions.

4.3.3 AEMO's conclusion

AEMO intends to run a workshop on 17 July 2020 with industry and IT representatives, to work through the details across each field that is new, amended or removed. Details on the workshop are included on AEMO's website at: https://aemo.com.au/consultations/current-and-closed-consultations/msats-standing-data-review.

This workshop will generate the input and nuance required, to supplement the written feedback to the First Draft Report.

This workshop will be informed by pre-workshop material based on the responses. The tables provided by PLUS ES and TasNetworks in their submissions have contributed in this regard.

5. DISCUSSION ON PRIOR ISSUES FROM FIRST DRAFT REPORT

5.1 Meter Malfunction Exemption Details

5.1.1 Issue summary and submissions

The information provided for the December 2019 pre-consultation survey and discussions at the February 2020 industry workshop indicate the potential benefits of including meter malfunction exemption details in MSATS. The change could provide visibility to all participants responsible for the NMI, consequently removing the administrative costs of participants enquiring on the status of the malfunction rectification.

In the First Stage Consultation, AEMO requested feedback regarding the proposed addition of the two new fields, Meter Malfunction Exemption Number and Meter Malfunction Exemption Expiry Date. AEMO indicated that it is considering whether automation is available for AEMO or participants to populate these two new fields, including initial population and ongoing maintenance. AEMO considers it will not be feasible to enter this information manually.

The majority of responses supported the addition of these two new fields. Accordingly, AEMO's conclusion in the First Draft Determination was to consider:

- automation of the current exemption process, including a process to reflect approved exemptions in MSATS; and
- addition of these two new fields at the NMI level.

AEMO indicated that it would be appropriately responsible for populating and updating these two new fields, once the exemption process is automated.

AEMO clarified that the Meter Malfunction Exemption Number field would record the exemption number, when a meter malfunction exemption has been granted by AEMO. Further, AEMO indicated that it intends to provide the latest data available for the Meter Malfunction Exemption Expiry Date field. Accordingly, the field would either be populated with:

- future date, where the exemption is active;
- past date for an expired exemption, where the issue is unresolved; or
- no date, where a metering installation malfunction has been remedied or rectified (in which case, the exemption will finish, then the record will be removed or cleared).

During the MSDR pre-consultation stage (Pre-Consultation Stage) and the First Stage Consultation, some participants suggested the addition of a Meter Family Failure field, to indicate whether a meter family failure is present.

During the Second Stage Consultation, AEMO did not support its addition. AEMO is not able to identify all such failures. AEMO only becomes aware of a family failure, when an application for exemption to specific installation timeframes is received for a NMI.

During the Second Stage Consultation:

- Endeavour Energy suggested that AEMO's obligations in the MSATS Procedures: CATS Procedures should be updated, to oblige AEMO to populate these two new fields.
- PLUS ES supported AEMO's conclusion in the First Draft Report, recommending the alignment of the availability of these two new fields with the automation process, as well as the updating of the Exemption Procedure – Meter Installation Malfunctions.
- EnergyAustralia suggested that the Meter Family Failure field should be included, as an enumerated list highlighting the family failure, or a separate section. The party requesting the exemption would outline whether the meter/NMI is family failure, then AEMO would perform the update, based on this information. AEMO would not need to identify 'all family failures', but

instead just perform the update, based on the information provided by the MC, via the exemption process. If AEMO wanted to update all meters impacted by the family failure, AEMO could request the information from the MC.

- Energy Australia noted that the First Draft Report indicated that: the Meter Fault Notification would not be updated once an exemption period passes (without the meter fault being resolved); an exemption would remain, once it has been rectified; and AEMO suggested the exemption would not be removed, until the exemption period passes. EnergyAustralia suggested that updating the Meter Malfunction Exemption Expiry Date field to indicate that there is no exemption (when the exemption period passes), or that the site has been rectified, would provide more accurate and useful information to participants.
- AGL suggested that the Meter Family Failure information could be managed through the meter malfunction exemption process.

In AGL's view, a short enumerated categorisation of meter faults could be developed between AEMO and the MCs, making the exemption management process more efficient. These categorisations might be:

- Meter Failure.
- Family Failure.
- CT Fault.
- HV VT/CT Fault.
- Damaged Display.
- Comms Failure.
- No Communications Available.
- Asbestos.
- Customer Defect.
- Customer Reschedule.
- Other (not categorised).
- Etc.

Further, AGL suggested a combination of meter type and categorisation would allow participants to build the processes into workflows and focus on high impact faults, in respect of:

- Asbestos.
- Unable to Isolate.
- Equipment not found.
- Customer defect - level 2 Defect.
- Retailer Cancellation - Not Same day.
- Unsupported B2B Service Order.
- Unable to clarify existing meter number/s.
- Unable to perform customer consultation or arrange appt.
- Customer requested reschedule.
- No room on switchboard.

- Customer contact details incorrect.
- Field technician missed scheduled work order.
- Unable to locate Site (NMI).
- Incorrect Retailer determined on site.
- Customer defect - Level 1 Defect.
- Incorrect Retailer (detected via Scheduling).
- Field Tech not qualified and Re-attemptable.

5.1.2 AEMO's assessment

In the Second Stage Consultation, AEMO received no objections to the proposal to add two new fields, automate the process and make AEMO responsible for populating those fields, once automation is in place. AEMO agrees with Endeavour Energy's suggestion to update the MSATS Procedures: CATS Procedure to oblige AEMO to populate the two new fields. However, in AEMO's view, these obligations should be added as part of the exemption automation work, instead of as part of this consultation.

AEMO notes PLUS ES's support for AEMO's conclusion in the First Draft Report, as well as PLUS ES's recommendation to align the availability of the two new fields with the automation process, as well as the updating of the Exemption Procedure – Meter Installation Malfunctions, at the time AEMO works on exemption automation.

AEMO does not support the addition of Meter Family Failure field, as AEMO is not able to identify all Meter Family Failure instances, given AEMO only becomes aware of a family failure, when it receives an application for exemption to specific installation timeframes for a NMI. However, AEMO will consider adding a reason for the Meter Malfunction Exemption which may contain Family Failure as an option, at the time that AEMO works on the exemption automation.

EnergyAustralia suggested that updating the Meter Malfunction Exemption Expiry Date field to indicate that there is no exemption (when the exemption period passes), or that the site has been rectified, would provide more accurate and useful information to participants. AEMO clarifies that its proposal in the First Draft Report is consistent with EnergyAustralia's recommendation, as AEMO proposed to provide the latest data available for the Meter Malfunction Exemption Expiry Date field. Accordingly, this field would either be populated with:

- future date, where the exemption is active;
- past date for an expired exemption, where the issue is unresolved; or
- no date, where a metering installation malfunction has been remedied or rectified (in which case, the exemption will finish, then the record will be removed or cleared).

AGL's expanded suggestion, as to the enumerated list for categories of exemptions, will be included as part of AEMO's review of the process (subject to AEMO automating the process).

5.1.3 AEMO's conclusion

As articulated in the First Draft Report, AEMO's intent remains to consider the automation of the current exemption process, including to reflect approved exemptions in MSATS. AEMO considers that the proposed addition of the two new fields at the NMI level is appropriate, with AEMO being appropriately responsible for populating and updating the fields, once the exemption process is automated. AEMO will need to undertake a detailed design assessment of the new automated process in this regard.

AEMO will align the introduction of the obligations on it to update the two new fields, as well as the updating of the Exemption Procedure – Meter Installation Malfunctions, at the time AEMO works on exemption automation.

AEMO retains its position on providing the latest data available for the Meter Malfunction Exemption Expiry Date field. Accordingly, the field would either be populated with:

- future date, where the exemption is active; or
- past date for an expired exemption, where the issue is unresolved; or
- no date, where a metering installation malfunction has been remedied or rectified (in which case, the exemption will finish, then the record will be removed or cleared).

AEMO does not support the addition of Meter Family Failure field, as AEMO is not able to identify all Meter Family Failure instances, given it only becomes aware of a family failure when it receives an application for exemption to specific installation timeframes for a NMI. However, 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 exemption automation.

5.2 Type 4A Metering Installation (MRAM) Reason

5.2.1 Issue summary and submissions

The information provided for the December 2019 pre-consultation survey and discussions at the February 2020 industry workshop indicated the potential benefits of adding a new field in MSATS, to flag the reason for the type 4A exemption to the type 4 metering installation obligation. This new field would be associated with a NMI which has a Metering Installation Type Code in MSATS of "MRAM".

Most participants were supportive of the introduction of this new field. A number of participants proposed that AEMO would populate this new field.

The submissions to the Issues Paper – as well as other feedback provided separately to AEMO – highlighted the potential benefits to participants and their customers.

The reason for the exemption (NER 7.8.4) is either:

- AEMO exempting the Metering Coordinator (MC), if the MC demonstrates to AEMO's reasonable satisfaction that there is no existing telecommunications network which enables remote access to the meter; or
- the MC not being obliged to install a type 4 meter, where:
    - the customer has refused;
    - the retailer has notified the MC that the retailer has informed the customer as to type 4As;

  and the MC has accepted the refusal.

In this regard, the MC must:

- ensure that changes to parameters or settings within a metering installation are reported to AEMO, to enable AEMO to record the changes in the metering register (NER 7.8.11); and
- arrange for any discrepancies in respect of information in the metering register to be corrected (NER 7.12.2).

The information in the metering register is confidential, as is NMI Standing Data (NER 7.15.1). A registered participant has a number of obligations in respect of such confidential information (NER 8.6.1).

Notwithstanding these obligations, the disclosure, use or reproduction of information is not prevented, where the person who provided the relevant information under the NER consents (NER 8.6.2). In this scenario, the incoming participant would need to obtain the relevant information in circumstances involving such consent.

In the First Draft Report, AEMO asked, "*What are the key issues for AEMO to consider in working with stakeholders to explore with the AEMC the potential benefits of enhanced access to type 4 / 4A metering communications exemption information?*"

In response:

- AGL and Energex, Ergon Energy and Metering Dynamics suggested that a category field could be included in the Meter Malfunction Exemption Details to include where an exemption is provided for no telecommunications.
- AusNet Services, EnergyAustralia, Evoenergy, Origin Energy, Plus ES, Red Energy and Lumo Energy supported the inclusion of the type 4A reason.
- Intellihub, and Vector Metering supported the inclusion of reasons for the type 4A exemptions.

5.2.2 AEMO's assessment

AEMO is interested in continuing work with stakeholders to explore with the AEMC the potential benefits of enhanced access to exemption information, along with the potential rule changes required to realise these benefits.

5.2.3 AEMO's conclusion

AEMO intends to collate participant feedback from this consultation to include in a proposal to the AEMC that this matter be considered within the scope for its review of Competition in Metering, to commence in late 2020.

5.3 Metering Installation Transformer Information

5.3.1 Issue summary and submissions

In the Issues Paper, as well as the First Draft Report, AEMO proposed changes to the metering installation transformer information which included:

- Splitting existing information into Current Transformer (CT) and Voltage Transformer (VT), as follows:
  Transformer Location -> CT Location and VT Location
  Transformer Ratio -> CT Ratio and VT Ratio
  Transformer Type -> CT Type and VT Type
- Adding the following new fields:
  CT/VT Accuracy Class
  CT/VT Last Test Date
  CT/VT Test
  CT/VT Sample Family ID
  CT/VT Test Date
- Validating fields: AEMO has provided a list of proposed enumerated values for the CT/VT fields, requesting feedback on the appropriate values in those enumerated lists.

In response to the First Draft Report:

- Vector Metering questioned the usefulness of maintaining a sample family ID in MSATS for CT and VT transformers. MCs are permitted to move devices between sample families, for example, where

devices within a family exhibit higher failure rates than others (for geographical reasons, etc). MCs would then re-cast their families in order to drill down on specific conditions suspected of causing the failure. The alignment of MSATS with internal sample family inventories would be cumbersome and expensive. Vector Metering recommends that this information be removed from MSATS, absent a demonstrable benefit for including it.

- Vector Metering questioned the description of the new CT/VT Test fields. A transformer can be tested either physically, or using a sampling approach, subject to the approved test plan. Under the rules, the results of both methods have the same standing. MCs need to resolve any malfunction or accuracy failure within the mandated timeframes. If MCs are unable to do so, MCs will apply for an exemption from AEMO which will update the exemption information in MSATS. The benefits of indicating the method for determining the accuracy of the transformer in MSATS are unclear. The differences are unclear, too, as between Sample Tested and Tested, or Sample Tested and Sample.
- IntelliHUB questioned the proposed validations for the fields CT Ratio and CT Type. The validations appear to be based on standard low voltage (LV) CT Types (i.e. A,B,C,S,T,U,V,W), but the list does not allow for HV CTs and LV Special CTs. A range of other single-tap and multi-tap ratios are missing from the list.
- IntelliHUB also questioned the benefit of the VT Type proposed values and suggested "Single-Phase" and "Multi-Phase", and the questioned the purpose of the CT Test, VT Test, and VT Sample Family ID fields, and noted that they are not aware of any sample testing of VT's.
- PLUS ES did not support the addition of the new fields of CT/VT Last Test Date and CT/VT Accuracy Class, or the proposed validations for the transformer information fields. PLUS ES considers this as information which belongs in individual MC's and MP's asset management systems, not in MSATS. Further, MSATS would be unable to correctly reflect the nuances in the ways that MC's and MP's record and manage transformers, as well as the associated database modelling.
- Evoenergy indicated that CT/VT Sample Family ID fields do not add value to any market participant, and that adding the CT/VT Test field should be sufficient. Evoenergy also suggested that adding the CT/VT Test Date field might be anti-competitive, as it could deter retailers from winning or keeping customers, if retailers knew that they were to incur test costs.

In the Second Stage Consultation, AEMO received the following feedback on preferences as to representing transformers with dual secondary windings or more (i.e. 500kV : 110V : 110V) in the enumerated list for VT Ratio, given the possibility of up to five secondary windings:

- Ausgrid noted AEMO's acceptance of certain NMI Classification Codes (BULK, XBOUNDRY and INTERCON), which do not require CT and VT details to be published in MSATS. If these changes are applied before 5MS goes live, NMIs with a NMI Classification of WHOLESAL and INTERCON should not be required to publish this information to MSATS. Some HV CTs are not of a specific type (e.g. S, T, W etc). In addition, HV CT could have a number of different ratios and secondary currents. In Ausgrid view, such detailed information should be stored in the MPs' systems, not in MSATS.
- Ausnet Services agreed with representing secondary + VT Ratio as per the example provided. However, Ausnet Services reiterated that nearly all recent CT/VT installations are performed by the MC, or customer's Registered Electrical Contractor (REC). Therefore, as LNSP for these HV sites with contestable metering, the appropriate records do not exist in the relevant systems. As such, it would be difficult to ascertain data conclusively and accurately for those existing VTs, or to report on whether they have dual connections. The questions will need to be considered as to how existing sites would have their values populated and what would be suitable transition periods. The

applicability of any validation to HV CTs requires careful consideration also. Ausnet Services agreed that CTs do have dual core windings in respect of some existing HV sites, but in any case, the proposal to include this information may not be beneficial to the market.

- United Energy and CitiPower Powercor recommended the more valuable information to capture is the availability of alternative tapings on HV and LV Current Transformers, such that different and more suitable ratios can be implemented, including, for example, 200-400/5A. However, the most important information is the connected ratio, rather than available ratios. The presence of dual secondary windings on VTs is of less value, particularly if these are not metering class and are already used for other purposes, in which case these could be similarly presented as 500k/110-110V.
- Energex, Ergon Energy, Metering Dynamics indicated that for the purpose of populating VT details in MSATS, there is only value in capturing the VT ratio details related to the secondary windings connected to the metering installation.
- EnergyAustralia suggested that secondary windings can be listed as: 500kV : 110V : (2-5) in the format of PRIMARY : SECONDARY VALUE : SECONDARY #.

5.3.2 AEMO's assessment

AEMO agrees with Vector Metering, IntelliHUB and Evo Energy that the proposed new fields of CT/VT Sample Family ID do not benefit market participants, so should not be added. Transformers are identified by the type of test performed – 100% sample test or part of sample – but VTs are not sample tested, so the proposed new fields of CT/VT Test should be sufficient.

Vector Metering questioned the definition and the purpose of the new proposed fields of CT/VT Test.

AEMO clarifies the reason for the proposed CT/VT Test fields is to help the incoming MC to determine the actions required in respect of a LV CT that is subject to sample testing. The Alternate Testing Guideline – which sets out details in respect of sample tested (LV CT) – recognises that minimising customer disruptions is a benefit, so a means is required to identify what has happened to the LV CT, from a testing perspective. AEMO notes that, in theory, the Voltage Transformer Test field could be removed, as there is currently only the option for testing 100% of the population. However, this may change in the future, so AEMO proposes to retain this field.

IntelliHUB questioned the proposed validations for the fields CT Ratio and CT Type. IntelliHUB indicated that the validations appear to be based on standard LV CT Types, not allowing for HV CTs and LV Special CTs.

AEMO agrees with IntelliHUB. AEMO clarifies that the list of CT/VT fields values and validations, as previously proposed by AEMO, were provided as examples to stimulate feedback from participants. In responding to this Second Draft Report, stakeholders should provide AEMO with the values which they identify as desirable for inclusion in the enumerated lists. Otherwise, the lists proposed by AEMO will provide the initial values for the CT/VT fields.

IntelliHUB questioned the benefit of the VT Type proposed values and suggested "Single-Phase" and "Multi-Phase". IntelliHUB questioned, also, the purpose of the CT Test and VT Test fields.

AEMO clarifies that the VT Type information will be of future benefit, when other testing methods are acceptable in the NEM for certain type of VTs in which circumstances MCs/MPs will be better able to plan their testing. AEMO proposed the current breakdown of values and validations to identify the type of device on site. When future testing methodologies are proposed to AEMO, only certain types will be able to be tested in that manner. Accordingly, the MC could be assisted to identify the type of testing which the MC can perform on a site.

AEMO clarifies that the purpose of the CT/VT Test fields is to provide the incoming MC with information as to their inheritance from a testing perspective – namely, an asset that was part of 100% testing, a sample that was tested, or a sample that was not tested.

In AEMO's view, these two new fields would provide useful, high quality data. More importantly, the addition will ensure that retailers can provide information to their customers and that MCs/MPs are complying with their obligations. The majority of responses in the earlier stages of consultation supported the addition of these two new fields. Consequently, AEMO retains its position, in favour of adding these two new fields.

Evoenergy suggested that adding the CT/VT Test Date field might be anti-competitive, as it could deter retailers from winning or keeping customers, if they knew of the required test costs. However, AEMO considers that the new field would enable the provision of useful market information. Specifically, the new field would provide information to incoming MCs on the compliance of the metering installation.

AEMO agrees to keep the VT Ratio field simple – including single secondary windings, but not multiple secondary windings – in respect of transformers with dual secondary windings or more (i.e. 500kV : 110V : 110V). AEMO will establish this field as the ratio connected to the metering installation. AEMO notes that this field will cover both low voltage and high voltage sites. AEMO agrees that the information should be stored in MPs' systems. However, since metering competition was introduced, such information has not been shared by all relevant participants, thereby creating unnecessary administrative and field work. AEMO intends to include the information in MSATS to support metering competition, as well as efficiency.

5.3.3 AEMO's conclusion

AEMO proposes not to add the following fields, as these fields are not considered of benefit to participants:

- CT Sample Family ID
- VT Sample Family ID

AEMO retains the position from its First Draft Report, to split the existing transformer information into new CT and VT fields, as follows:

- Transformer Location->CT Location and VT Location
- Transformer Ratio->CT Ratio and VT Ratio
- Transformer Type->CT Type and VT Type

Further, AEMO also retains the position its First Draft Report, to add the following new transformer information fields, on the basis that they will benefit participants:

- CT/VT Accuracy Class
- CT/VT Last Test Date
- CT/VT Test
- CT/VT Test Date

AEMO proposes to keep the VT Ratio field simple – including single secondary windings, but not multiple secondary windings. AEMO will establish this field as the ratio connected to the metering installation. AEMO notes that this field will cover both low voltage and high voltage sites. AEMO intends to include the information in MSATS to support metering competition, as well as efficiency.

AEMO proposes the following validations, based on participant feedback:

Field	Validations
CT Ratio	200 : 5

Field	Validations
(this field reflects the available and connected ratio)	800 : 5 2000 : 5 4000 : 5 1500 : 5 150 / 300 / 600 : 5 @ 150 : 5 150 / 300 / 600 : 5 @ 300 : 5 150 / 300 / 600 : 5 @ 600 : 5 400 / 800 / 1200 : 5 @ 400 : 5 400 / 800 / 1200 : 5 @ 800 : 5 400 / 800 / 1200 : 5 @ 1200 : 5 1000 / 2000 / 3000 : 5 @ 1000 : 5 1000 / 2000 / 3000 : 5 @ 2000 : 5 1000 / 2000 / 3000 : 5 @ 3000 : 5
VT Ratio (this field reflects the available and connected ratio)	500kV : 110V 330kV : 110V 275kV : 110V 220kV : 110V 132kV : 110V 110kV : 110V 66kV : 110V 33kV : 110V 22kV : 110V 11kV : 110V 6.6kV : 110V
CT Type	A B C S T U V W COMBINED (IVT + CT) LV Special *(to be added if relevant ratio values are provided by participants)* HV *(to be added if relevant ratio values are provided by participants)*
VT Type	IVT (Inductive Voltage Transformer) CVT (Capacitive Voltage Transformer) COMBINED (IVT + CT) Three-Phase Three-Limb Three-Phase Five-Limb
CT Accuracy Class	0.5M 0.5ME 0.5S 0.5SE 1M AM BM A
VT Accuracy Class	0.2M 0.5M 1M A B C

Field	Validations
	D AL BL

Question:

1. 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).

5.4 Metering Installation Connection Configuration Details

5.4.1 Issue summary and submissions

In the Issues Paper, AEMO proposed to include a Connection Configuration field in MSATS, the field is intended to be a single field which efficiently captures the NMI's capability at an asset level. The feedback was generally supportive of the inclusion of this field.

In the Second Stage Consultation after incorporating stakeholder feedback, AEMO proposed to include the field, but change the location from the meter register table to the NMI Data table. AEMO proposed also to assign to the LNSP the responsibility to provide the data. AEMO agreed that the proposed field should be included in the C7 report.

AEMO has proposed the field to be a four-character code to denote information about the configuration of the connection point as follows:

- 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)
- Second Character = Phases In Use
  1 = Single Phase
  2 = Two-Phase
  3 = Three-Phase
- Third Character = Presence of CT
  C = Current Transformer Present
  N = No Current Transformer Present
- Fourth Character = Presence of VT
  V = Voltage Transformer Present
  N = No Voltage Transformer Present

In the Second Stage Consultation, AEMO received the following feedback as to the Meter Malfunction Exemption Details:

- Endeavour Energy noted that the purpose of the Connection Configuration field is to help provide key information to assist with meter changes. To reduce maintenance costs this field should not be required for NMIs where there is no meter. In addition, the information required for the field would be unknown at the time when a NMI is created. Accordingly, this field cannot be

'mandatory'. Endeavour Energy indicated also that all the information required for the field is not known to the Network – for example, when a new metering installation is installed at an existing connection point for a granny flat, or for a refurbished/re-configured commercial premises. However, the information would always be known to the MP, because the MP is responsible for the metering installation. Accordingly, Endeavour Energy suggests a new CR Code be created to allow a MP to maintain the field.

Vector Metering suggested that making the field mandatory would be problematic, because the meter installation has not been established at the point the NMI is created in the market, so the connection configuration is not known. Vector Metering recommended that the field be optional for greenfield NMIs. Vector Metering raised the questions of how the LNSP will receive the information to populate MSATS and who will provide this information. The retailer via connection paperwork? The MP after the installation of a meter via the Notification of Metering Works (NOMW) B2B transaction? Or the ASP in NSW?

5.4.2 AEMO's assessment

In AEMO's view, given the LNSP's responsibility for the connections to their network, the LNSP should be able to provide the information in the first two characters of the field – which identify, respectively, the connection type (High or Low Voltage) and the number of phases in use.

AEMO concurs with Endeavour Energy and Vector Metering that the information required in the third and the fourth field characters – which identify the presence of CT and VT – may not always be available for the LNSPs. AEMO proposes to remove these characters from the field description, thereby limiting it to only the connection type and number of phases in use. AEMO considers that the newly added fields for CT and VT transformer information should suffice to identify the presence of CT or VT.

5.4.3 AEMO's conclusion

AEMO retains the position from the First Draft Report to include the proposed field at the NMI level and to assign the LNSP with the responsibility to provide the data. However, AEMO proposes to remove the third and the fourth characters from the field which identifies the presence of CT and VT, as this information may not always be available for the LNSPs. As a result, the field will become a two-character code, instead of the previously-proposed four-character code. The field will be used to denote information about the configuration of the connection point, as follows:

- 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)
- Second Character = Phases In Use

  1 = Single Phase
  2 = Two-Phase
  3 = Three-Phase

5.5 Network Additional Information field

5.5.1 Issue summary and submissions

In the Issues Paper, AEMO proposed that the following fields be removed as they have a very low population rate and appear to not be valued by participants:

- Demand1.

- Demand2.
- Network Additional Information.

The majority of Participant responses:

- agreed with AEMO that Demand1 and Demand2 fields should be removed; and
- disagreed with AEMO on the removal of the Network Additional Information field, which the participants found useful, because it records information that cannot be held elsewhere.

On the basis of the feedback detailed in the First Draft Report, AEMO proposed to remove the Demand1 and Demand2 fields, but retain the existing Network Additional Information field.

In the First Draft Report, AEMO proposed to include a Connection Configuration field in MSATS. AEMO asked participants to consider three questions in relation to retaining the field:

- What uses do participants (retailers, networks and metering parties) have for the Network Additional Information field?
- Are there other fields that may be suitable to apply this information? For example, Meter Location field with an increased character length available for the field.
- Do you agree with retaining the Network Additional Information field?

AEMO received the following responses:

- AGL suggested the field could be used for coverage of additional network activities.
- Ausgrid, EnergyAustralia, Origin Energy, Red Energy and Lumo Energy use the field for meter location details.
- Ausgrid uses it to hold hazard code details.
- Endeavour Energy uses it to hold network tariff descriptions.
- Energex and Ergon MDP/LNSP utilise this field for the Time of Use Splits on COMMS metering.
- Energex and Ergon LNSP utilise this field to advertise retrospective dates relating to tariff changes.
- TasNetworks use the field to communicate register circuit information and the meter tariff code (as required by the major retailer in Tasmania).
- AusNet Services, CitiPower Powercor, Metering Dynamics, ERM Power, Evoenergy, Intellihub, Plus ES, Powermetric Metering, SA Power Networks, United Energy and Vector Metering do not use this field.
- The majority of respondents agreed that meter location details should sit within the Meter Location field, especially with the proposed increased character length.
- Endeavour Energy stated that the network tariff description is a repeat of information available elsewhere in MSATS for their tariffs.
- TasNetworks the information included in this field does not fit in another field.
- AGL, AusNet Services, Energex, Ergon Energy, Metering Dynamics, Origin Energy, Red Energy and Lumo Energy, and TasNetworks all support the retention of the field.
- Ausgrid, CitiPower Powercor, United Energy and Vector Metering did not have a position as to whether the field should be retained
- Endeavour Energy, EnergyAustralia, ERM Power, Evoenergy, Intellihub and Powermetric Metering did not see the value in retaining the field.

5.5.2 AEMO's assessment

AEMO notes the mixed feedback, including the specific feedback as to uses for the existing field, especially in Tasmania. AEMO intends to retain the field as it currently is. AEMO intends also to make the field a Required field – participants which have the information will provide it if they have it, but not if they do not.

During the upcoming data transition workshop, AEMO intends to explore the removal of meter location details from this current field into the Meter Location field, as its appropriate domicile in MSATS.

5.5.3 AEMO's conclusion

AEMO will retain the Network Additional Information field as Required and explore how to move meter location details into the Meter Locations field.

6. PROCEDURE AND DOCUMENT CHANGES

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

- MSATS Procedures: CATS Procedure.
- MSATS Procedures: WIGS Procedure.
- Standing Data for MSATS Document.

AEMO has received feedback on these documents as to:

- Data requirement of some fields, including whether it 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 draft changes to these documents. AEMO have provided detailed responses to submissions in Appendix B of this Second Draft Report. AEMO has also amended these documents in light of the feedback.

The updated documents will be published in respect of this Third Stage Consultation, with all the relevant changes highlighted in yellow.

7. ISSUES WHERE THERE IS GENERAL AGREEMENT BETWEEN PARTICIPANTS AND AEMO

Based on feedback from the First Stage Consultation, participants generally agree with a number of the changes proposed by AEMO, as follows:

Change Type	Information Category	Field Name	AEMO's Conclusion
To Amend	General Metering Installation Information	Last Test Date	Field definition to be clarified to refer to testing only. Field be made 'Required'. Data quality to be maintained by validating it according to date format.
To Amend	General Metering Installation Information	Meter Test Result Accuracy	Field to be made 'Required' and renamed from 'Meter Test Result Accuracy' to 'Meter Test Result'. Field to be enumerated to indicate Pass or Fail.
To Amend	General Metering Installation Information	Meter Manufacturer	Field to be made 'Mandatory' with itemised list of regular compulsory updates.
To Amend	General Metering Installation Information	Meter Model	Field to be made 'Mandatory' with an itemised list of regular compulsory updates.
To Amend	General Metering Installation Information	Meter Read Type Code	Field made 'Mandatory' and fourth character to identify whether meter capable of reading at five-minute granularity.
To Amend	General Metering Installation Information	Meter Suffix	No change required. Field has always been 'Mandatory'.
To Amend	General Metering Installation Information	Meter Use	Field to be made 'Required' with an enumerated list of values.
To Remove	General Metering Installation Information	Asset Management Plan	Field to be removed.
To Remove	General Metering Installation Information	Calibration Tables	Field to be removed.
To Remove	General Metering Installation Information	Meter Constant	Field to be removed.
To Remove	General Metering Installation Information	Meter Point	Field to be removed.
To Remove	General Metering Installation Information	Meter Program	Field to be removed.
To Remove	General Metering Installation Information	Meter Route	Field to be removed.
To Remove	General Metering Installation Information	Meter Test & Calibration Program	Field to be removed.
To Remove	General Metering Installation Information	Meter Test Result Notes	Field to be removed.
To Remove	General Metering Installation Information	Next Test Date	Field to be removed.
To Remove	General Metering Installation Information	Test Performed By	Field to be removed.

Change Type	Information Category	Field Name	AEMO's Conclusion
Proposed Field	General Metering Installation Information	Disconnection Method	Field not to be added.
Proposed Field	General Metering Installation Information	Meter Commission Date	Field not to be added.
Proposed Field	General Metering Installation Information	Meter Locks	Field not to be added.
Proposed Field	General Metering Installation Information	Minimum interval length	Field not to be added.
Proposed Field	General Metering Installation Information	Meter Family Failure	Field not to be added.
Proposed Field	General Metering Installation Information	Meter Test Report	Field not to be added.
Proposed Field	General Metering Installation Information	Plug-in Meter Flag	Field not to be added.
To Amend	Register Level Information	Controlled Load	Field to be made with enumerated list.
To Amend	Register Level Information	Time of Day	Field to be made with enumerated list.
To Remove	Register Level Information	Demand 1	Field to be removed.
To Remove	Register Level Information	Demand 2	Field to be removed.
To Remove	Metering Installation Location Information	Additional Site Information	Field to be removed and contents moved to the existing field Meter Location.
To Amend	Metering Installation Location Information	Meter Location	Field size to be increased to accommodate data from Additional Site Information.
To Amend	Meter Read Estimation Information	Next Scheduled Read Date	Field to be modified from 'Optional' to 'Required' for all manually read meters.
To Remove	Meter Read Estimation Information	Data Validations	Field to be removed.
To Remove	Meter Read Estimation Information	Estimation Instructions	Field to be removed.
To Remove	Meter Read Estimation Information	Measurement Type	Field to be removed.
To Remove	Meter Communications Information	Communications Equipment Type	Field to be removed.
To Remove	Meter Communications Information	Communication Protocol	Field to be removed.
To Remove	Meter Communications Information	Data Conversion	Field to be removed.
To Remove	Meter Communications Information	Password	Field to be removed.
To Remove	Meter Communications Information	Remote Phone Number	Field to be removed.
To Remove	Meter Communications Information	User Access Rights	Field to be removed.
To Remove	Address Structure	Unstructured Address	Field to be removed.

Change Type	Information Category	Field Name	AEMO's Conclusion
Proposed Field	Address Structure	G-NAF PID	Field to be added.
To Amend	Feeder Class	Feeder Class	Field to be made 'Required' for Queensland.
Proposed Field	Transmission Node Identifier 2	Transmission Node Identifier 2	Field to be added.
Propose To Remove	NER Schedule 7.1	Loss compensation calculation details	Field to be proposed to be removed from Schedule 7.1.2.
Propose To Remove	NER Schedule 7.1	Data register coding details	Field to be proposed to be removed from Schedule 7.1.2.
Propose To Remove	NER Schedule 7.1	Write password (to be contained in a hidden or protected field)	Field to be proposed to be removed from Schedule 7.1.2.

8. OTHER MATTERS

8.1 Consumer Data Right (CDR)

8.1.1 Issue summary and submissions

The CDR will enable customers to consent to their energy retailers, for example, sharing the customers' data with accredited third party service providers – such as comparison sites – to get more tailored, competitive services.

The ACCC stated, during the First Stage Consultation:

'A key tenet of the CDR is secure sharing of consumer data – that is, that the correct data relating to an authenticated consumer is shared with an accredited third party, in line with the consumer's consent. We consider a data field indicating when a NMI has changed customer (i.e. a change in account holder field) will be critically important in ensuring that data sharing within the CDR regime operates in a secure and efficient manner.

Currently, AEMO does not capture information about when a NMI changes hands. All CDR authentication models for energy currently being considered will require some retailer involvement. However, without information about when a NMI has changed customer, additional retailer involvement (from the consumer's current retailer and potentially past retailer or retailers) will be required to determine that the customer making the data sharing request was, is and continues to be linked to the NMI for the time period relating to the data sharing request. The purpose of this check is to avoid inadvertent sharing of data that does not relate to a customer currently linked to the NMI (for example, data relating to a previous occupant of a premises).

A flag indicating when a NMI has changed customer would alleviate the need for further involvement of the customer's current retailer (for ongoing data sharing) or past retailer or retailers in this aspect of the authentication model. While relevant to one-off data sharing requests, this is particularly important where there is an ongoing data sharing arrangement or a request for historical data sets where AEMO is the data holder.

We note that, for the purposes of defining this field, further analysis is required to define what a 'change in customer' means. Ideally, we would prefer the definition to be aligned to the definition of who is eligible to make CDR requests, which, while still to be settled in the designation instrument and CDR rules, is likely to be the electricity account holder.'

In addition to these definitional matters, AEMO noted in its First Draft Report, that a number of complexities would need to be resolved to achieve the envisaged objectives.

Accordingly, AEMO proposed that this definition and resolution work be coordinated, as the next steps concerning the potential future introduction of:

- new fields of "Change in Account Holder" and "Change in Account Holder Effective Date" to be added to MSATS Standing Data to support CDR; and
- new obligation on FRMPs to provide this data on the day they are advised of a change in account holder.

The responses to AEMO's questions in the First Draft Report include that:

- More detail is required to enable participants to properly assess the proposed addition of the fields, in the broader context of the need to define 'change in customer', as well as authentication/authorisation and account holder models, plus data standards for the CDR (question 22).

- Resolution is required of complexities arising from scenarios involving churn (AGL), primary/secondary or associate account holder (AusNet Services, EvoEnergy, PLUS ES and Origin), shared accommodation (AusNet Services), multiple NMIs for one customer (Energex), liquidation or insolvency (Origin) and privacy (Origin) (question 23).
- Consideration needs to be given to the potential consequences in terms of lessening of consumer consent (AGL), targeting customers for commercial purposes (AusNet Services), identification of correct customers (EnergyAustralia), retrospective change of details (Origin), privacy and safety in respect of joint account holder (Red Lumo) and unknown consumption (Vector Metering) (question 24).
- Same-day timeframe to update these fields is supported by some participants (Energex, PLUS ES and TasNetworks), not supported by others (AGL) and conditionally supported with reference to market timeframes by others still (Origin) (question 25).

ACCC's objectives could be supported by end users having visibility/access to their consumption data (AusNet Services) and by setting a flag for sharing or not by the Accredited Data Recipient (ADR) (EvoEnergy) (question 26).

8.1.2 AEMO's assessment

These responses raise a number of issues which require resolution.

AEMO understands that a highest priority for the energy CDR is to ensure the relevant privacy controls in respect of information. In this regard, the intention of the two proposed fields is to help to enable the correct data relating to an authenticated customer to be securely and efficiently shared with an accredited third party, in line with the customer's consent. Specifically, these fields would provide visibility over when data access should be granted or revoked, when a NMI has changed customer.

However, these fields would not include consumer data. AEMO handles such consumer data as a function of its services, but does not store these data in AEMO systems. Instead, the B2B procedures set out the processes by which participants store – as well as obtain, exchange and manage – such data.

8.1.3 AEMO's conclusion

AEMO will consider the issues raised in the feedback more broadly in the context of the ACCC's energy CDR initiative. The proposal may require the ACCC to consult with the industry participants over the authentication/authorisation and account holder models, as well as data standard, for the CDR.

In the interim, AEMO proposes to remove these matters related to the energy CDR from this MSDR, as a specific focus of consultation. In AEMO's view, the consideration of any related changes to MSATS would need to be in the future, as informed by energy CDR developments.

8.2 Network Tariff Code (NTC)

8.2.1 Issue summary and submissions

In the context of consultation on Power of Choice Procedure Changes (Package 1) to implement the National Electricity Amendment (Expanding competition in metering and related services) Rule 2015, AEMO determined that the Network Tariff Code field should be mandatory for completion by MPs.

AEMO considered that parties are appropriately incentivised to ensure that the NTC is updated correctly. AEMO assumed contracts would be in place that linked the distributor to the MP, at least indirectly via the FRMP and MC, if not more directly, in some cases. Further, AEMO considered that such contracts would cover information on, and requirements for, the updating the NTC.

The MP may be able to avail itself of information from MSATS regarding an existing NTC at a NMI. However, the MP should only use this code if it remains consistent with the changes undertaken at the metering installation. AEMO does not consider it reasonable or practical for the LNSP to continue to maintain this field as a result of changes performed by contestable MPs. However, the LNSP should be able to correct errors, or raise errors through their contractual relationships for resolution by the MP.

In its feedback on the Issues Paper, Endeavour Energy indicated that LNSPs should be responsible for populating the field. Endeavour Energy has suggested two options:

- Option 1: The MPB could be allowed to create a meter register record without a NTC. The LNSP would then be required to populate the NTC. Any further changes to the meter register record by the MPB should always result in the NTC being carried to the updated meter register record. The MPB cannot change or blank out the NTC. The LNSP should always have the right to change the NTC.
- Option 2: The field could be removed from the meter register record. Two new fields could be created in the NMI master record, called 'Network Service' and 'Network Tariff Code'. The Network Service field, which describes the services offered by the network, should be an enumerated field, with values like 'general supply' and 'off peak'. The Network Tariff Code field is used to assign the NTC to the network service.

Option 2 is Endeavour Energy's preferred option.

Neither Option 1 nor 2 enjoyed clear majority support in responses to AEMO's questions in the First Draft Report.

The responses relating to issues with the population of the NTC (question 27) were as follows:

- Endeavour Energy indicated issues with incorrect allocation of the NTC by the metering provider, which results in manual work to rectify the issue, thereby delayed billing, with impacts on cashflow.
- AGL indicated its support for the proposal, expecting that the new process would be similar to the current process.
- Ausgrid indicated that its proposal during the Power of Choice (POC) changes was not accepted, its system is working correctly and it will not support any changes which requires it to rebuild the system.

The responses as to which solution proposed by AEMO is the most effective (question 28) were as follows:

- Option A was supported by Red Lumo.
- Option B was supported by EnergyAustralia.
- Option C was supported by AusNet Services, PLUS ES, Red Lumo and AGL as a fallback option.
- Option D was supported by CitiPower/Powercor, EvoEnergy, Intellihub, Origin, Powermetric, Red Lumo, TasNetworks, United Energy and AGL, with option C as a fallback option.

The responses to AEMO's invitation to comment on Option 1 and Option 2 (question 29) were as follows:

- Option 1 was supported by AGL, AusNet Services, Citipower/Powercor, EvoEnergy, Red Lumo and United Energy.
- Option 2 was supported by Endeavour Energy, Powermetric and TasNetworks.
- Option 1 and Option 2 were both supported by and Vector Metering.
- Option 2 was not supported by Energex, Origin and Red Lumo for specified reasons, but nor did they indicate support for Option 1.

- Neither Option 1 nor Option 2 was indicated as being supported by Ausgrid, PLUS ES or SA Power Networks.

8.2.2 AEMO's assessment

One third of participants supported Option 1 whilst one quarter of participants supported Option 2. A further one third of participants either did not indicate support for either option, or gave reasons for not supporting an option, but did not provide an indication of support for the other option.

AEMO notes that Option 2 assumes a single Network Tariff for all meters on the metering installation, which many not be correct. It is possible that there could be separate tariffs at meter level. The network tariff structures are determined by distributors and approved by the AER. AEMO must provide the flexibility for network tariffs at meter level.

Further, the submissions identified various existing issues, including issues with NTC population, errors in NTC nomination and delayed notice of tariff changes. The solutions proposed by AEMO did not enjoy clear majority support in terms of a preferred option.

AEMO would like to understand whether the population of the NTC field is a significant ongoing issue which needs to be addressed. If so, then AEMO notes the following options could be explored:

- Compliance options in respect of MPB performance in incorrectly populating NTC.
- Retailer obligations to inform the MC and MPB of the appropriate NTC.
- Network obligations to correct an incorrectly populated NTC within three business days after the metering installation details are provided by the MPB, to reduce delays to meter commissioning in MSATS.

8.2.3 AEMO's conclusion

Given the mixed responses, AEMO proposes to remove the NTC discussion from this consultation, to enable further analysis on the topic. Otherwise, the result could be continuation of inadequate procedures with undesirable results.

AEMO will include this topic in a future consultation if a changed position is indicated.

9. SECOND DRAFT DETERMINATION

AEMO's second draft determination is to amend various retail electricity procedures and other relevant documents in the form published with this Second Draft Report, in accordance with Chapter 7 of the NER. These procedures and documents include:

- MSATS Procedures: CATS Procedure vMSDR Second Draft Determination Change Marked;
- MSATS Procedures: CATS Procedure vMSDR Second Draft Determination Clean;
- MSATS Procedures: WIGS Procedure vMSDR Second Draft Determination Change Marked;
- MSATS Procedures: WIGS Procedure vMSDR Second Draft Determination Clean;
- Metrology Procedure Part A vMSDR Second Draft Determination Change Marked;
- Metrology Procedure Part A vMSDR Second Draft Determination Clean;
- Retail Electricity Market Procedures – Glossary and Framework vMSDR Second Draft Determination Change Marked;
- Retail Electricity Market Procedures – Glossary and Framework vMSDR Second Draft Determination Clean;
- Exemption Procedure – Meter Installation Malfunctions vMSDR Second Draft Determination Change Marked;
- Exemption Procedure – Meter Installation Malfunctions vMSDR Second Draft Determination Clean;
- Standing Data for MSATS document vMSDR Change Marked; and
- Standing Data for MSATS document vMSDR Clean.

The timing of next steps in the MSDR will be informed, in part, by:

- complexity of the issues arising;
- interdependencies among various rule and procedural changes; and
- priority levels associated with related initiatives, including Five Minute Settlement and Global Settlement, as well as the CDR legislative framework timing.

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
BULK	*Connection point* where a *transmission network* connects to a *distribution network* - also termed 'Bulk Supply Point'
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	*Distribution network connection point* where energy is directly purchased from the *spot market* by a *Market Customer*
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	*Interconnector*
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	*small customer metering installation* – 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 *distribution network* into which energy normally flows through a *connection point* between adjacent *distribution networks* that has a single *NMI*.
UFE	Unaccounted for Energy
VICAMI	a relevant *metering installation* 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 Draft Report

Material Issues

Table 1 Type 4a Metering Installation (MRAM) Reason

No.	Consulted person	Issue	AEMO response
Q1 What are the key issues for AEMO to consider in working with stakeholders to explore with the AEMC the potential benefits of enhanced access to type 4 / 4A metering communications exemption information?			
1.	AGL	Please note AGL comment regarding the categorisation of the Exemption field. If the submission of the exemption by the MC has an associated category, then type 4A exemptions for telecommunications can be made via the portal, in the same way that other exemption requests can be made.	AEMO notes the respondent's comment. As part of our review of the process AEMO will include the option of a category. This is subject to AEMO automating the process.
2.	Ausgrid	No Comment.	
3.	AusNet Services (inclusive of Mondo)	The Type 4a (MRAM) Reason field is supported , as it provides participants greater visibility to the reason why the site is being manually read.	AEMO notes the respondent's view that participants should have enhanced access to information in respect of type 4A exceptions. AEMO will consider the relevant issues as AEMO advances options with the AEMC to explore the potential for such enhanced access.
4.	CitiPower Powercor	This matter is not relevant in Victoria.	AEMO notes the respondent's comment.
5.	Endeavour Energy	No comments	
6.	Energex, Ergon Energy, Metering Dynamics	We note the MSATS Standing Data Review (MSDR) proposes to add an 'Exemption' field. As an exemption is required for a Type 4a installation due to NoComms but not for CustRefusal, we would propose adding an 'Exemption Type' element to the new Exemption field. By doing so the reason for a Type 4a site could then be determined by the MRAM install code and the presence or absence of a Type 4a exemption.	AEMO notes the respondent's comment and refers to the responses in Table 1, item 1 and Table 1, item 3.

No.	Consulted person	Issue	AEMO response
7.	EnergyAustralia	The key issues that need to be explore is whether the rules currently allow for this information to be provided. If not, should it be provided when it is compared to other 'customer' information that is stored in MSATS (solar, controlled load devices, etc). Type 4a reason is similar to the suggestion below for the new fields 'Change of Account Holder' and 'Change of Account Holder Effective Date', as they are both providing customer information. With Type 4a, the benefits of having this information arises when the initiating customer (in respect to customer refusal) vacates the property. There is a clear benefit in providing this information to prospective retailers/MCs; as it will improve efficienices (offering the correct plans/services), the customer relationship, and the roll-out of remote capability. The AEMC must consider whether there is a breach of customer's privacy, or if there would be adverse effects from listing the type 4a reason. They should also consider the likelihood of each, and how this compares with the benefit of listing the information.	AEMO notes the respondent's comment and refers to the response in Table 1, item 3.
8.	ERM Power	No issues	AEMO notes the respondent's comment.
9.	Evoenergy	Any customer refusal to have a type 4 meter with comms would want that known to any prospective retailer. In the same instance, it would be extremely useful for the new MP to know what implications and technologies to explore where a customer has requested new metering, but an exemption is in place. Field only needs to have a value 1 or 2, with 1 being customer initiated, 2 being exempt.	AEMO notes the respondent's comment and refers to the response in Table 1, item 3.
10.	Intellihub	AEMO should allow MRAM no signal exemptions to be processed via the portal as well creating a one stop shop. It seems only MALFNCTIONS are included in this change. MRAM no signal sites require an exemption so participants would know it's a No Signal site as exemptions are not required for Customer opt Out. This would negate the need for a reason to be populated in MSATS as the exemption info would be available for No Signal and other MRAMs would obviously be Customer opt Out. Even though there is no obligation on the MC to notify participants when an MRAM No Signal has been granted it is proposed that MSATS still notifies the existence of an exemption to participants in these instances and this will align the exemption process to MALFUNCTIONS.	AEMO notes the respondent's comment and refers to the response in Table 1, item 3.

No.	Consulted person	Issue	AEMO response
11.	Origin Energy	Origin Energy's view is that the potential benefits of providing enhanced access to exemption information would be reduced market costs for the new Retailer as it will assist with the next steps to take with the customer i.e. exemption because of the non-availbility of remote communications. The issue is around timing for the population on this information. Origin Energy proposes that where there is a change that results in the communications being restored, then a timeframe of when this should be updated in MSATS as well as the responsible party should be defined. In addition, MC's will have the ability to use MSATS to determine if an exemption exists and need to be managed as part of the metering installation and to be able to apply for a new exemption (with investigation and evidence) based on the flag transfer of MC.	AEMO notes the respondent's comment and refers to the response in Table 1, item 3.
12.	PLUS ES	PLUS ES identifies the following key issues: • MC has the obligation to maintain the information of customer refusal and ensure that a metering installation is enabled with communications. However, they are not the participants who have the customer relationship, interaction and knowledge of customer movements (move in/move out). • A FRMP may not have the visibility to the reason why the site is an MRAM, but they do have the customer relationship, interaction and knowledge of customer movements (move in/move out). • Enhanced access to this information would enable the FRMP or the MC to reinstate communications to a metering installation once the customer who provided the refusal moved out. • MRAM meters add burden on all parties involved (the MC/MP, FRMP and customer), to collect the data and manage the metering installation; i.e. increased costs, process efficiency challenges, resourcing and compliance.	AEMO notes the respondent's comment and refers to the response in Table 1, item 3.
13.	Powermetric Metering	Powermetric have zero Type 4A installations and therefore do not experience any issues in this regard.	AEMO notes the respondent's comment.
14.	Red Energy and Lumo Energy	Red and Lumo continue to support the addition of this field. This field would help to profile areas where telecommunication coverage is poor (poor or no signal), which assists retailers and MPs with making an early and correct decision regarding what type of service order to raise - such as remote re-en or attendance required. We consider	AEMO notes the respondent's comment and refers to the response in Table 1, item 3.

No.	Consulted person	Issue	AEMO response
		that this will be something which will become more and more useful as the penetration of meters increases and jurisdictions allow for remote energisations.	
15.	Tasmanian Networks Pty. Ltd.	TasNetworks have no comment.	
16.	United Energy	This matter is not relevant in Victoria.	AEMO notes the respondent's comment.
17.	Vector Metering	Vector does not support having a Type4A reason code in MSATS. We do however support the inclusion of any type4a exemption details that have been granted by AEMO under the *Exemption Guideline – Small customer meter Installation*. e.g. Exemption ID and Expiry date. It is not uncommon for the MC of a competitive meter to change (usually driven by a change of retailer and the commercial agreements between the retailer and the MC), and the MC is usually 'passive' in this transaction. In this scenario the new MC must reapply for any previously grated exemption to maintain the type4a status of a meter (as any exemption for a type4a is 'personal to the current MC') therefore it would be most efficient for the details of the current exemption to be readily available in MSATS. This will streamline the process for both the new MC and AEMO.	AEMO notes the respondent's comment and refers to the response in Table 1, item 3.

Table 2 Metering Installation Transformer Information

No.	Consulted person	Issue	AEMO response
Q2 In the cases where transformers have dual secondary windings or more (500kV : 110V : 110V), how would participants prefer to see those represented in the enumerated list for VT Ratio, keeping in mind that a transformer can have up to five secondary windings?			
1.	AGL	As long as the information is consistently formatted so it can be understood effectively by agents and processed by IT systems, AGL has no preference on the nature of the format.	AEMO notes the respondent's comment and preference for consistency within the field.
2.	Ausgrid	Ausgrid notes AEMO's acceptance of certain NMI Classification Codes (BULK, XBOUNDRY and INTERCON) not requiring CT and VT details to be published in MSATS. If these changes are applied before 5MS goes live, NMIs with a NMI	AEMO agrees to keep the field simple and will include single secondary windings, not include the multiple secondary windings. AEMO will establish this field as the

No.	Consulted person	Issue	AEMO response
		Classification of WHOLESAL and INTERCON should not be required to publish this information to MSATS. Some HV CTs are not of a specific type (e.g. S, T, W etc), how do participants identify these, by "Other"? In addition, HV CT could have a number of different ratios and secondary currents (1 A and 5 A), e.g. 400/600/800/1200:1. Is having this enumerated list limiting the accurate recording of the CT. Ausgrid notes that CT Accuracy class does not include class 0.2. Would it be better to have CT/VT Primary (voltage/current) field and CT/VT secondary (voltage/current) field? Would it better to capture the majority of sites (i.e. LVCT) and have alternate information for the more complex configurations (ie. exclude HV sites). Ausgrid is of the opinion that this information should be stored in the MPs system not in MSATS, we do not see the value of storing this level of detail in MSATS.	ratio connected to the metering installation. AEMO notes that this field will cover both low voltage and high voltage sites. AEMO agrees that the information should be stored in MPs' systems, however, since metering competition was introduced sharing of this information has not been forthcoming from all participants and has created unnecessary administrative and field work. AEMO intends to include the information in MSATS to support metering competition and reduce the inefficiencies that are currently occurring.
3.	AusNet Services (inclusive of Mondo)	We agree with representing secondary + VT Ratio as per the example provided, however we reiterate that nearly all recent CT/VT installations are performed by the Metering Coordinator or customer's REC. Therefore as LNSP for these HV sites with contestable metering, no records really exist in our systems as they are not network assets and are all maintained by the contestable MC. It would be difficult to ascertain data conclusively and accurately for those existing VTs, and report on whether they have dual connections anyway. Consideration needs to be given on how existing sites will have their values populated and what would be a suitable transition period. CT/VT Validations The current transformer type/ ratios proposed only allow for various configurations where the tapping of the CTs may be 30/5, 50/5, 100/5 etc.	AEMO notes the respondent's comment and refers to the response in Table 2, item 2. AEMO notes that MC should provide this information to their nominated MP.

No.	Consulted person	Issue	AEMO response
		However, secondaries of the current transformer may also be "1 Amp" as opposed to the traditional "5 Amp" CTs. These types come once again with different available ratios. Additionally, for HV CTs, the proposed CT type field is not relevant, therefore strict validation should not apply for HV CTs to use the CT Type. Example: S type LVCT – 200/5. For HV, the CT may have 200/5 single tap or a multi-tap with various possible ratios 50-100-200/5. The CT Ratio is sufficient for HV CTs. Careful consideration is required before any validation is applicable to HV CTs. Agree with the current statement in the draft determination, that for some existing HV sites, CTs do have dual core windings. The proposal to include this information may not be beneficial to the market	
4.	CitiPower Powercor	CitiPower Powercor recommends the more valuable information to capture is the availability of alternative tappings on HV & LV Current Transformers so that different and more suitable ratios can be implemented, for example; 200-400/5A. However, the most important information is to know the connected ratios rather than available ratios. The presence of dual secondary windings on VT's is of less value, particularly if these are not metering class and already used for other purposes, similarly these could be presented as 500k/110-110V.	AEMO notes the respondent's comment and refers to the response in Table 2, item 2. The example provided combined available and connected, hence for a multi-tap CT, the information can be 150 / 300 / 600 : 5 @ 150 : 5 which indicates there are three available ratios and the CT is currently connected at 150 : 5.
5.	Endeavour Energy	No comments	
6.	Energex, Ergon Energy, Metering Dynamics	For the purpose of populating VT details in MSATS, we feel there is only value in capturing the VT ratio details related to the secondary connected to the metering installation. Further, we seek clarity as to whether, if implemented, this information would need to be retrospectively populated.	AEMO notes the respondent's comment and refers to the response in Table 2, item 2. AEMO notes that these fields are Required and will need to populated for all existing sites that have CT/VT details.
7.	EnergyAustralia	Secondary windings can be listed as: 500kV : 110V : (2-5) PRIMARY : SECONDARY VALUE : SECONDARY #	AEMO notes the respondent's comment and will be making the field enumerated.

No.	Consulted person	Issue	AEMO response
8.	Evoenergy	It would be preferred to list all the available enumerated values, otherwise you make this field varchar, but that means possibility of rubbish values.	AEMO agrees and refers to the response in Table 2, item 7.
9.	Intellihub	No preference.	AEMO notes the respondent's comment.
10.	Origin Energy	Origin Energy support the proposed example provided by AEMO (500kV: 110V: 110V: 230V).	AEMO notes the respondent's support for the proposed field structure and refers to the response in Table 2, item 7.
11.	PLUS ES	PLUS ES does support the premise of the question in the first place. Additional secondary windings on a VT do not have any relevance unless they are associated with market metering – and typically they are not. This also illustrates the shortcoming of trying to model asset management features in a Market Settlement And Transfer Solutions (MSATS) system, which is not designed for this purpose. There are interrelationships between CT's, VT's and the rest of the metering installation that need to be maintained by the MP and MC. Trying to reflect some of this in MSATS becomes a burden without a benefit. PLUS ES maintains that such information should be abstracted up to a level that is relevant for the MSATS role of managing market transaction and administration. As per previously provided example, maintaining a simpler identifier for the configuration of a site being WC, or LVCT or HV would be more effective. This is relevant to all parties and would be more accurately and easily maintained	AEMO notes the respondent's comment and refers to the response in Table 2, item 2.
12.	Powermetric Metering	A single secondary will be sufficient. FYI - Powermetric asset register does not cater for dual secondaries.	AEMO notes the respondent's preference for a single secondary and refers to the response in Table 2, item 2.
13.	Red Energy and Lumo Energy	No comment at this time	
14.	Tasmanian Networks Pty. Ltd.	Is there a potential to only have the ratio in this field and a secondary field indicating the number of secondary windings? Is it relevant that the number of secondaries is even recorded?	AEMO notes the respondent's comment and refers to the response in Table 2, item 2.
15.	United Energy	United Energy recommends the more valuable information to capture is the availability of alternative tappings on HV & LV Current Transformers so that different and more suitable ratios can be implemented, for example; 200-400/5A. However, the most important information is to know the connected ratios rather than available ratios.	AEMO notes the respondent's comment and refers to the response in Table 2, items 2 and 4.

No.	Consulted person	Issue	AEMO response
		The presence of dual secondary windings on VT's is of less value, particularly if these are not metering class and already used for other purposes, similarly these could be presented as 500k/110-110V.	
16.	Vector Metering	No preference.	AEMO notes the respondent's comment.

Table 3 Shared Isolation Point Details

No.	Consulted person	Issue	AEMO response
Q3 Through what mechanism can a MC or MP communicate with an LNSP to instigate shared isolation point status changes?			
1.	AGL	There are multiple mechanisms, which would depend on the volume of data, ranging from an e-mail to a transactional mechanism to a CR to update MSATS. AGL does not strongly support e-mail, as this mechanism of communication is less secure and heavily reliant on manual processes, and often specific people. Rather AGL would prefer a more transactional approach to this form of data sharing. Equally, AGL does not think that a CR is the best solution. There was discussion about recording which NMIs have a shared fuse. As such, it is likely that the DBs will need to review that data sets prior to updating MSATS, especially if other information such as the second NMI is identified and cross referenced. For this reason, as an option, AGL suggests the MC could send a Misc Service Order (with an agreed structure) to the network to evaluate and update MSATS as a way of making the process transactional and ensuring transactional and business receipts are managed, and can ensure that the activity is placed in the DB workflows.	AEMO notes the respondent's identification of multiple mechanisms and the preference for use of a B2B transaction. The overarching principle for MSATS is that Change Requests (CRs) should only be provided by one party (a few exceptions exist, eg, NTC). Therefore, the communication tool cannot be by data changing in MSATS by the FRMP or MC, as the field is LNSP only. AEMO will collate feedback for B2B and provide this to the IEC. AEMO notes the solution for communications of shared isolation points are outside of MSATS and this will be outworked outside of this consultation. The B2BWG met on Friday 5 June 2020 and discussed notification by email initially then an assessment of volumes reviewed after 12 months.
2.	Ausgrid	The LNSP can populate the data, but Ausgrid suggest that the MP is also allowed to populate and maintain it as well. Once the MP installs the meter the shared fuse issue for that NMI would be resolved (only for any future works on that NMI), so Ausgrid see no reason for the MP to notify the LNSP. How does AEMO propose to identify sites where a shared fuse has been rectified on a particular NMI, but is still connected to a shared fuse scenario? (i.e. Flat 1 and Flat 2 are shared fuses, flat 1 meter is replaced and individual isolation provided (MC removes	AEMO notes that the AEMC Final Rule assigns the ownership of the information to the LNSP and AEMO has drafted the process to comply with the NER. The AEMC rule change decision indicated that LNSPs are responsible for recording all connection points with shared fuse arrangements as soon as practicable after becoming aware of the shared fuse arrangements. As the holder of

No.	Consulted person	Issue	AEMO response
		shared fuse flag in MSATS?), however if meter is required to be installed on flat 2, flat 1 will also have another outage). One potential solution could be to have a shared fuse flag on a NMI which indicates that the is no individual isolation for meters associated with that NMI. A second field would be required to "group" all associated NMIs associated with the shared isolation device, this could be just "grouping ID". This information would need to be made available via NMI discovery. If a report could be run on the Group ID and all of the individual shared fuse flags removed, then it could be determined that all sites can be individually isolated and the shared fuse problem has been resolved.	all the shared fuse information, the responsibility for updating MSATS will be with the LNSP. AEMO notes the process includes the communication obligations between FRMPs/MCs and LNSPs identified in Metrology Procedure Part A and CATS. As the LNSP has been assigned coordination ownership of the information, the grouping identifications is part of records that an LNSP may wish to keep. MSATS only requires the identification of the shared isolation point arrangement for a metering installation.
3.	AusNet Services (inclusive of Mondo)	Since AusNet Services acts as both MP, MC & LNSP for small sites this information is known at time of connection. It would be rare for this information to change status once established, therefore we recommend that the easiest way would be for a metering service provider to email the LNSP directly, the LNSP can then trigger a CR50xx manually to update MSATS. This method avoids amendments to CATS or new B2B transactions. The volume (at least on AusNet Services network) does not justify any changes to B2B processing.	AEMO notes the respondent's identification of multiple mechanisms and the preference for use of an email due to low volumes in AusNet Services network area and refers to the response in Table 3, item 1.
4.	CitiPower Powercor	For a site requiring identification and operation of shared fusing CitiPower Powercor recommends that the MP/MC is to notify FRMP to send SO to LNSP to investigate and scope work and then update shared fusing flag on effected NMI's. If a MC/MP then installs individual isolation to a specific NMI during that shared fusing DNSP outage, it is best that the NOMW be amended to allow the MP to advise the DNSP through that process, allowing the DNSP to remove the shared fusing flag on that NMI. MC/MP's are also obliged in some jurisdictions (i.e. NSW) to install a Meter Isolation Device with 80A rating, where the individual fusing of the LNSP SPD is >80A, and the NOMW should also advise the LNSP of that installation as it may be the cause of a supply outage.	AEMO notes the respondent's identification of the use of B2B transactions and refers to the response in Table 3, item 1.
5.	Endeavour Energy	A MC, MP or FRMP can request the LNSP to change the shared fuse value via email until a B2B transaction is created, if the volume warrants the creation of such a B2B transaction.	AEMO notes the respondent's identification of multiple mechanisms and the preference for initial use of an email

No.	Consulted person	Issue	AEMO response
			until volumes warrant use of a B2B transaction and refers to the response in Table 3, item 1.
6.	Energex, Ergon Energy, Metering Dynamics	It is our preference to use existing market transactions to provide updates of the Shared Isolation Points, i.e. NOMW.	AEMO notes the respondent's preference for use of a B2B transaction and refers to the response in Table 3, item 1.
7.	EnergyAustralia	Currently the LNSP is a notified party on S/Os sent from the MP to the retailer, it is likely the information could be advised in any of there S/O. There is currently no direct S/O between the MC/MP and the LNSP.	AEMO notes the respondent's preference for use of a B2B transaction and refers to the response in Table 3, item 1.
8.	Evoenergy	Best mechanism would be via a new B2B OWN – Shared Fuse – Replaced, with the contained completion and date within that automatically triggers a CR5051 from the LNSP systems to update MSATS.	AEMO notes the respondent's preference for use of a B2B transaction and refers to the response in Table 3, item 1.
9.	Intellihub	Via a Site Access Notification to the LNSP with the details 'Shared Fuse'. I believe the B2B procedures allow the MC to raise these.	AEMO notes the respondent's preference for use of a B2B transaction and refers to the response in Table 3, item 1.
10.	Origin Energy	Origin Energy proposes two options for the MP/MC to advise the LNSP. Option 1- Through B2B via the "SiteAccessNotification" by including an additional Value of "SharedFuse" to the "HazardDescription" field. The LNSP can then use that information to update MSATS. Option 2 – When the "Not-Complete" service order is returned by the MP to the Retailer, the LNSP uses the notified party transaction. Origin Energy would like to reiterate to get full value out of this field, industry should consider a method for linking all shared supply points together (such as a code that applies to all the NMI's on the same shared supply) to reduce overall industry cost in needing to maintain this data. There is also value where the LNSP is aware a NMI is flagged for life support to provide this information for any of the MP's/MC's that intend to isolate the site.	AEMO notes the respondent's preference for use of a B2B transaction and refers to the responses in Table 3, items 1 and 2.
11.	PLUS ES	PLUS ES believes there are a few mechanisms available to instigate shared isolation point status changes. Without understanding the procedure, hard to conclude on one. i.e. Identification of the shared isolation point –	AEMO notes the respondent's identification of multiple mechanisms and refers to the responses in Table 3, items 1 and 2.

No.	Consulted person	Issue	AEMO response
		The identification of a shared fuse can be determined by the LNSP or metering participant. There are currently a few mechanisms which the LNSP may be informed about a shared fuse pertaining to a metering installation • a retailer informing the LNSP of a Temp isolation via a B2B SO (the MP potentially advising the retailer of the identified isolation point) or other B2B mechanisms. • an agreement of off market communications i.e. emails Status change/update: • The most efficient way could be a field in a CR sent to the Market when updating metering installation information. This would remove the dependency of the LNSP to be the 'middleman'/ administrator for an activity which more than likely was undertaken by the MP/MC. It would also align in principal with other updates in MSATS. Furthermore, with respect to the proposal, o the 'Party to Provide' column must be updated to LNSP/MPB in the Standing Data for MSATS doc o Updates to the CATS for the recommended CR which would allow an MP to update and o procedures developed to clearly articulate the activities and the responsible parties.	
12.	Powermetric Metering	Powermetric would prefer to just allow MC's and MP's update this field.	AEMO notes the respondent's preference for metering parties to update this field and refers to the response in Table 3, item 2.
13.	Red Energy and Lumo Energy	No comment at this time	
14.	SA Power Networks	There is currently no efficient way for this information to be shared. SA Power Networks would recommend that this be tackled in 2 stages – Stage 1 – Industry develop and agree a formal template that would be used to provide this information – with manual processes also developed and agreed to support the exchange of this information. Stage 2 (12 months after stage 1) - Validation of the information being shared to determine if the content is valid and suitable – with modifications being made where	AEMO notes the respondent's identification of multiple mechanisms and the preference for initial use of an email until volumes warrant use of a formal approach and refers to the response in Table 3, item 1.

No.	Consulted person	Issue	AEMO response
		required. Assessment of volumes and use to determine if a formal systems base transaction is required and justifiable to exchange this information.	
15.	Tasmanian Networks Pty. Ltd.	This could potentially be communicated via an existing OWN transaction or even a new transaction altogether.	AEMO notes the respondent's preference for use of a B2B transaction and refers to the response in Table 3, item 1.
16.	United Energy	For a site requiring identification and operation of shared fusing United Energy recommends that the MP/MC is to notify FRMP to send SO to LNSP to investigate and scope work and then update shared fusing flag on effected NMI's. If a MC/MP then installs individual isolation to a specific NMI during that shared fusing DNSP outage, it is best that the NOMW be amended to allow the MP to advise the DNSP through that process, allowing the DNSP to remove the shared fusing flag on that NMI. MC/MP's are also obliged in some jurisdictions (i.e. NSW) to install a Meter Isolation Device with 80A rating, where the individual fusing of the LNSP SPD is >80A, and the NOMW should also advise the LNSP of that installation as it may be the cause of a supply outage.	AEMO notes the respondent's identification of the use of B2B transactions and refers to the response in Table 3, item 1.
17.	Vector Metering	Communication of shared fuse should be via a B2B transaction. Whether a formal B2B transaction is required or not should be determined during an IEC consultation process.	AEMO notes the respondent's preference for use of a B2B transaction and refers to the response in Table 3, item 1.

Table 4 GPS Coordinates

No.	Consulted person	Issue	AEMO response
Q4 Please explain the benefits for expanding the GPS coordinates field to cover all NMIs given this would be a significant cost? For example, some multi-floor buildings would have the same GPS coordinates so you may also need to have elevation for which floor (assuming metering on each unit)?			
1.	AGL	First, in terms of broad data capture – the meter databases will need to be modified to capture GPS coordinates for all meters, and managing validations on rural/urban meters may also cause issues (assuming urban also encapsulates small towns etc as opposed to major cities).	AEMO notes the respondent's comment in support of expanding the GPS Coordinates field to cover all NMIs and identification of specific scenarios where GPS would be of assistance. Based on the feedback received across questions 4 to 6 and the long term customer outcome

No.	Consulted person	Issue	AEMO response
		If there is too much flexibility in the proposed definitions then AGL could see various mismatches, eg one DB records a supply meter 50 m from the town edge, but another wont record a meter within 1 km. As urbanisation grows, a meter which was captured when it was rural, may be ignored on exchange, because the town boundary has shifted. As such, AGL would strongly urge that once GPS coordinates are captured, they must be maintained, regardless of urban / rural definitions. AGL would also suggest that there is great value in capturing GPS coordinates of UMS connections, traffic lights, street-light connections etc where there is no associated address. AGL does not believe that this aspect was considered during the initial consultation. GPS coordinates in multilevel buildings (together with other NMI locational data (eg floor)) will assist in locating meters. Lastly, the cost of implementing this change has been argued to be the database structures and issuing GPS equipment to field staff. Once those changes are implemented, then then capturing urban meter locations is more incremental and the process more automated / BAU. Further, there would be no need to then consider whether data must be captured, as all areas would qualify. AGL would consider that the data collection obligation could be the first 12 months in rural areas, and 24 months for urban areas would be reasonable (effectively allowing parties year 2 for the urban data capture, thus minimising capital equipment costs). AGL understands that there may also be some consideration of the costs of capturing type 4 meters previously installed. AGL would suggest that while those If all location are captured, then the definition of urban / rural is moot.	benefits, AEMO will be making GPS Coordinates Required for all NMIs for three years (36 months) from the effective date and Mandatory thereafter to enable a suitable transition period for collection.
2.	Ausgrid	Ausgrid is of the opinion that in a significant number of circumstances in urban areas, GPS co-ordinates will not be able to be accurately obtained (e.g. meters inside with no satellite signal), what would the expectation be in this circumstance, last recorded GPS co-ordinate, estimated coordinate? A description of meter location would provide a better chance to find the meter in these circumstances. Ausgrid does see a benefit of the provision of GPS coordinates in rural properties, but would like to highlight that GPS co-ordinates in a country town would have similar issues to urban environment, where accurate capture may not be available.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
		Provision of this information on NMIs with a NMI Classification Codes (BULK, XBOUNDRY and INTERCON) should not be required to be published in MSATS. If these changes are applied before 5MS goes live, NMIs with a NMI Classification of WHOLESAL and INTERCON should not be required to publish this information to MSATS.	
3.	AusNet Services (inclusive of Mondo)	The cost to record GPS coordinates with any dependable level of accuracy is significant, notwithstanding that a quantified benefit has not been articulated. GPS coordinates may have some benefits for remote or rural sites, but no benefit for urban sites. However, we consider that even the application of GPS coordinates for existing remote or rural is not warranted. AusNet Services does not support capturing GPS coordinates for existing NMIs. Processes can be established to capture GPS coordinates going forward, however identifying the GPS coordinates for existing rural sites would be difficult in specific geographical areas (e.g. high country) and would be highly costly to achieve with accuracy. AusNet Services strongly recommends making this field 'Required" and NOT mandatory. A long transition period would also be required to accurately locate remote or rural sites. Furthermore, as the vast majority of meters in Victoria are DNSP supplied AMI meters and policy makers have decided for this to continue well beyond 2021 it is unlikely that establishing GPS coordinates for existing meters would deliver any benefits to Victorian customers only costs. A sensible proposition would be to delay the application of any such mandate applying to existing NMIs in Victoria until such a time when electricity law in Victoria allows metering contestability for small customers. AusNet Services does not support capturing GPS Co-ordinates for manually read meters, especially in Victoria as there is no identified benefit for this, moreso with meter contestability not applicable in Victoria across small metering (VICAMI). Additionally, the draft report states that the GPS coordinates to be populated will relate to the meter location and not just the property location, which makes sense in rural areas. Making this field mandatory would pose difficulties for no or restricted access sites. Would exemptions apply for non access sites? Or would it be best endeavours and we use the property GPS co-ords, which would largely defeat the purpose in rural areas?	AEMO notes the respondent's comment and refers to the response in Table 4, item 1. When the transition period of three years is approaching its expiry date, AEMO will review the requirements to identify a solution for handling 'no access' situations. In Victoria, where the the AMI derogation may change in the future, AEMO notes one of the MSDR Guiding Principles is for the changes to be future focused as well as the GPS coordinates providing benefits nationally.

No.	Consulted person	Issue	AEMO response
4.	CitiPower Powercor	CitiPower Powercor supports providing GPS co-ordinates for all sites installed from the commencement date of this obligation but does not support this being retrospective, i.e. that it applies to all existing sites. We also don't believe you need to distinguish the floor number with a different GPS coordinate for each floor, the tenancy address should confirm the floor. 3D coordinates would require far more complex data capture and record storage for very minor benefit.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
5.	Endeavour Energy	We believe that collecting and providing GPS coordinates is costly when compared to other alternatives, such as the use of the meter location field, and at times does not provide the desired benefit, such as when the meter is located on a certain floor of the building. We also believe that providing GPS coordinates for sites where the meter location is easily identifiable, such as most residential sites, will provide minimal benefits. However we note that AEMO is progressing with GPS coordinates based on the objective of enabling energy market efficiencies in the long-term interests of consumers. We support this objective and therefore support AEMO's decision, on the basis of AEMO's assessment which is the benefits of providing GPS coordinates enhances the capability of industry to locate and provide metering services, in particular where a meter is located away from main buildings such as a pump in a field.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
6.	Energex, Ergon Energy, Metering Dynamics	We believe the main benefit of including GPS coordinates would be in relation to rural/remote installations, but also see some benefits moving forward with sites that are churning MPBs, as per SA Power Networks and CitiPower Powercor's statements in the Draft Report. If required to develop systems / processes to capture GPS coordinates for rural installations we would apply this to allow installations but feel there may not be significant benefits for sites with multiple installations in a shared location. Notwithstanding, we note there would be a significant cost impact for completing this data conversion activity.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
7.	EnergyAustralia	It is short sighted to remove urban areas from having GPS coordinatews because there are many sites where meters are easy to locate. The multi-floor/occupancy example provided in the consultation is the most apparent reality for why GPS coordinates should be provided for all sites; as population growth results in increasing multi-	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
		occupancy residences, it is imperitave that the locations of meters are precisely located. The introduction of POC has created a scenario in which the meter provider can change at a customer or retailer request. This means that parties that have potentially never visited the site (for New connection, meter read etc) will have a requirement to locate the existing metering point. For this reason GPS co-ordinates are more pertinent now that ever before. Providing a similar cut-over period - as proposed for other changes - would reduce the cost to participants, i.e. allowing it to be required for 12 months, and then mandatory. It is understood that many meter providers (particularly those delaing with SME/C&I) already maintain GPS coordinates; where this is not currently held, meter readers can be tasked with updating the details, or additional field staff can be employed for the task. The consultation paper suggests that GPS coordinates would be required for new connections, which seems a confusing suggestion considering new installation will predominantly be remotely read, and one of the main benefits of GPS coordinates if for locating the meter, for actions like meter reading.	
8.	ERM Power	The proposed solution adds significant overhead. The current assumption is that the NMI location would be the same as the meter location. No need to expand the field. Description can be used for additional details.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
9.	Evoenergy	As detailed in the many responses from Distribution businesses, there is no benefit to capture this information on existing meters where data was not previously captured.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
10.	Intellihub	GPS coordinates are generally more of value in the rural sense.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
11.	Origin Energy	Origin Energy propose that GPS coordinates should be at a meter level not the NMI level. Most issues are in rural areas where MP's are unable to locate a meter or where there are multiple meters across a site. This is less of an issue for multi-floor buildings however there is benefit to have Floor Location.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
12.	PLUS ES	GPS is only relevant and useful when the already available geographic references cannot easily determine the metering location. In most cases, the address details are rich enough to find the meter.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
		Mandatory GPS co-ordinates for all metering is a nice to have and only for a small volume of the metering population will it deliver the perceived benefits.	
13.	Powermetric Metering	Powermetric have assumed that the NMI location would be the same as the meter location? If so then the description plus the GPS Coordinates are sufficient. Powermetric believe there is no need to expand this field.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
14.	Red Energy and Lumo Energy	Red and Lumo see the introduction of the GPS coordinates as a potential for improving customer satisfaction and experience, and reduce costs. We currently manage calls with customers where certain jobs have not been performed due to the meter not being located by the field crew, further rework and orders being raised multiple times, adding to the cost of the work. This field would help to mitigate these issues, leading to a positive customer outcome.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
15.	SA Power Networks	SA Power Networks is not able to quantify the benefits but would support GPS coordinates being provided at all NMI's when they are available (this should not be a mandatory requirement).	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
16.	Tasmanian Networks Pty. Ltd.	TasNetworks can see no benefit in providing GPS coordinates for all NMIs that would outweigh the cost of the exercise. Current manual meter reading equipment used by TasNetworks does not have the ability to record GPS coordinates, therefore making the collection and population of this data a very significant and expensive exercise.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
17.	United Energy	United Energy supports providing GPS co-ordinates for all sites installed from the commencement date of this obligation but does not support this being retrospective, i.e. that it applies to all existing sites. We also don't believe you need to distinguish the floor number with a different GPS coordinate for each floor, the tenancy address should confirm the floor. 3D coordinates would require far more complex data capture and record storage for very minor benefit.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
18.	Vector Metering	While AEMO has correctly identified that manually read meters are visited at least 4 times a year offering the opportunity to collect this data with negligible cost, the same is not the case for already deployed contestable meters. Should the MP not have collected the GPS location at the time of installation (there is no obligation to do so) then the MP would be required to revisit the site for no other reason than to collect GPS location (meters cannot provide a GPS location remotely). A meter may not be	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
		revisited after original commissioning until is it replaced under an end-of-life scenario. This could be 15 to 20 years later. Any new obligations on collecting this data should only be mandatory when the site is visited for any other reason e.g. fault, inspection, test, alteration.	
Q5 AEMO has applied the definition of rural using the 'Designated regional area postcodes' to gain consistency in approach, however feedback indicates a mixed response to this option. Is there an alternate NEM wide definition that can be applied across the NEM? AEMO notes, for example, in Queensland NMIs are required to be classified as urban, short rural and long rural for Guaranteed Service Levels. Is there something similar to this in other jurisdictions and can it be applied there?			
19.	AGL	AGL has no particular position on what is designated Rural or Urban, as long as it is consistently approached, noting that whatever definition is used will most likely have some default areas which are urban in a rural postcode or rural in an urban post code (eg small townships or estates). AGL would suggest that where there is variation, that the obligation errs on the side of capturing the data. See comments in Q 4 regarding consistent approach to boundaries and maintenance of GPS coordinates once captured.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
20.	Ausgrid	Can AEMO investigate as to whether council zoning definitions can be imported into MSATS and use to determine if the site is rural? Ausgrid highlighted in its initial submission that using post codes does not achieve the intent of what AEMO is attempting to achieve (i.e. the country town scenario where the town will have the same post code as the out lying rural properties?	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
21.	AusNet Services (inclusive of Mondo)	The AER has definitions for short rural and long rural feeders based on line length from the zone sub in relation to their reliability measures. This may be more accurate than using purely postcodes. AusNet Services would prefer to use this existing definition already in electricity law. It may also be feasible and more accurate to use a combination of Feeder length (as per AER definition) and postcode.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
22.	CitiPower Powercor	CitiPower Powercor supports the use of DLF's to distinguish between rural and urban NMIs, i.e. rural short, rural long, urban short and urban long. This may then need that to be an attribute recorded against the NMI	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
23.	Endeavour Energy	We believe that if GPS coordinates is mandatory for all manually read meters, for all new connections and for all meter exchanges, then there is no need to define rural sites and instead for simplicity, GPS coordinates should be made mandatory for all sites.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
24.	Energex, Ergon Energy, Metering Dynamics	While Ergon Energy utilises the urban, short rural and long rural classifications, Energex does not. Using postcodes to determine rural areas whilst usable does create its own set of challenges. For example, post code 4702 covers the edge of Rockhampton (Gracemere) all the way to Emerald. This area may include localities that you may not wish to class as rural, as well as localities which are rural. An alternative solution may be to classify rural as a designated distance from a designated metro centre.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
25.	EnergyAustralia	EnergyAustralia strongly supports the inclusion of GPS coordinates for all meters, and believes the short term pain (populating the coordinates) will be worth it for the long term gain to customers and participants. Having the GPS coordinates for all meters will remove the confusion around 'rural' classification.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
26.	ERM Power	We do not support the notion that GPS should only be needed for rural areas. The GPS coordinates should be applicable for all meter capable of providing location details.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
27.	Evoenergy	As per Ausgrid response, this field should be Required only.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
28.	Intellihub	Not sure.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
29.	Origin Energy	Metro, Regional and Remote can be used in other jurisdictions so definition should be used across the NEM. By have this information it will assist with the Meter Installation timeframes.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
30.	PLUS ES	PLUS ES has no alternate proposal to this but does not support Designated regional area postcodes either.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
		For example, a major town could potentially fall into the designated regional area postcode. The built-up zone of such postcodes wouldn't generally present challenges in locating a meter. It is not consistent enough to utilise a fixed definition for address characteristics to determine when GPS coordinates are mandated. This alone will not holistically meet the objective which GPS co-ordinates are trying to solve.	
31.	Powermetric Metering	Powermetric does not support the notion that GPS should only be needed for rural areas and we intend to input GPS coordinates for all meter locations as this information is very useful no matter which region the meter is located in.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
32.	Red Energy and Lumo Energy	Red and Lumo believe GPS should be applied to all NMI's/meters. We recognise it may be more difficult in apartment blocks. We note that this is still possible when the GPS is matched with a well populated Network Additional Information field.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1. The Meter Location field would be better suited to capture the additional locational details Red and Lumo refer to.
33.	SA Power Networks	SA Power Networks recommends the inclusion of wording that provides allowances for the exclusion of major regional centres/townships that would fall within the post code areas. These towns should be viewed in the same way that metropolitan suburbs and therefore flexibility is needed by industry.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
34.	Tasmanian Networks Pty. Ltd.	In TasNetworks' jurisdiction there is no alternate method that could be used effectively. TasNetworks' opinion is that the defined rural postcode method is the best option.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
35.	United Energy	United Energy supports the use of DLF's to distinguish between rural and urban NMIs, i.e. rural short, rural long, urban short and urban long. This may then need that to be an attribute recorded against the NMI	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
36.	Vector Metering	Vector believes this is creating obligations based on geographical boundaries is unnecessary complex. Once processes have been put in place to capture gps location details for a subset of meter installations i.e. rural, the marginal cost to perform this for all meter installations is low. Should obligations to collect this data be introduced, we will collect this for all our meters going forward regardless of physical location. Therefore, maintaining a register of designated postcodes is unnecessary.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
Q6 Do you agree with AEMO proposal? If yes, why? If no, why not? Please provide reasons.			

No.	Consulted person	Issue	AEMO response
37.	AGL	AGL notes the comment, but would seek clarity on what constitutes rural and urban; Further, AGL sees the GPS coordinates assisting with locating meters and connections not directly on a property – eg traffic lights, UMS connections, rural pumps etc. As such, AGL thinks that greater benefit will accrue by not separating the requirement for urban and rural. In saying that, AGL suggests that data capture could be prioritised over a period, such as 12 months for rural and 24 months for urban. AGL would also suggest, that as some DBs and MCs may already have GPS coordinates (eg Vic DBs) for urban meter locations, that these be required to be populated so that the largest population of information is developed.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
38.	Ausgrid	No, given the cost to capture potentially inaccurate information, Ausgrid suggest that this field should be required not mandatory. Agree for rural installations, new and replacement where an accurate GPS coordinate can be obtained.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
39.	AusNet Services (inclusive of Mondo)	AusNet Services does not support using "Postcode" to define an area as "Rural". There are many postcodes in the AusNet Services distribution area that include both urban (majority portion) and rural sites. e.g. Postcode 3825 has 22 towns listed, most of the sites included are urban rather than rural.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
40.	CitiPower Powercor	CitiPower Powercor does not support AEMO's proposal to use 'Designated regional area postcodes' as we believe the use of DLF's is a more accurate and is the existing industry standard to distinguish between rural and urban areas/suburbs.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
41.	Endeavour Energy	We note that AEMO is progressing with GPS coordinates based on the objective of enabling energy market is efficiency in the long-term interests of consumers. We support this objective and therefore support AEMO's decision, on the basis of AEMO's assessment which is the benefits of providing GPS coordinates enhances the capability of industry to locate and provide metering services, in particular where a meter is located away from main buildings such as a pump in a field.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
42.	Energex, Ergon Energy,	We agree with the AEMO proposal in principle, and in particular the application to Type 1-4 meters. However, we seek clarification if this is also intended to apply	AEMO notes the respondent's support for the draft report's proposal in principle and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
	Metering Dynamics	retrospectively to Type 6 meters. If it is intended to apply to Type 6 meters we note this would incur significant expense.	
43.	EnergyAustralia	Yes; however, as stated above, it should be for all meters.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
44.	ERM Power	No – ERM believe that GPS coordinates are very useful no matter which region the meter is located in.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
45.	Evoenergy	As detailed in the many responses from Distribution businesses, this will require system changes, resource allocation therefore cost, that the incumbent MPB will not have any recourse to recover. Agree that meter exchanges, meter churns and new connections should be included in capturing GPS location details.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
46.	Intellihub	Agree with AEMOs proposal ro make GPS coordinates mandatory after 12 months and the obligation must be placed on whoever the current MPB is at the time, wether it is a contestable MPB or an LNSP.	AEMO notes the respondent's support for the draft report's proposal and refers to the response in Table 4, item 1.
47.	Origin Energy	Origin Energy suggest to not limit this information for just rural and MRIM sites rather should be extended to all sites as it will assist in supporting the rollout of smart meters. It will also assist in mitigating address issues across the NEM. Origin Energy agree with AEMO's proposal to have this field as 'mandatory for all new connections and all meter exchanges and meter churns sites. This approach will allow time and opportunity for multiple meter readings that are accurate for "all" sites as proposed not just rural and MIRM sites.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
48.	PLUS ES	PLUS ES does not agree with AEMO's proposal for the reasons identified in Q4 & 5 and the below. The cost benefit analysis of the mandatory provision of GPS co-ordinates for all metering is questioned. This exercise will be very costly and deliver limited benefits. GPS is only relevant and useful when the already available geographic references cannot easily determine the metering location. In most cases, the address details are rich enough to find the meter.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
		Manually read meters: It is incorrect to consider that collecting GPS data as part of meter reading as reasonable, because meter reading cost is already optimised to a minimum. Any additional logistical tools and resourcing to collect GPS coordinates would cause a significant cost increase with little benefit. Rural sites: Irrespective of how the rural sites are defined it will still require additional resourcing and costs: • additional complex system logic • field resourcing in potentially sparsely populated areas to record GPS co-ordinates for already exchanged metering. PLUS ES proposes that GPS coordinates for existing remote read meters be mandated when the metering installation requires a field visit. For example, (a) after a metering installation is visited for other maintenance purposes; and (b) metering installation – meter exchange or new connection. This would render the field required. This approach maintains the implementation cost to a reasonable level while maximising the usefulness of the process.	
49.	Powermetric Metering	No – Powermetric's believe that GPS coordinates are extremely useful particularly for large C&I and SME sites no matter which region the meter is located in.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the response in Table 4, item 1.
50.	Red Energy and Lumo Energy	Red and Lumo support the introduction of GPS coordinates, and believe this field should be applied to all NMI's/meters. We recognise it may be more difficult in apartment blocks. We note that this is still possible when the GPS is matched with a well populated Network Additional Information field.	AEMO notes the respondent's support for the inclusion of GPS Coordinates for all meters and refers to the responses in Table 4, items 1 and 32.
51.	SA Power Networks	SA Power Network agree with AEMO's proposal.	AEMO notes the respondent's support for the draft report's proposal and refers to the response in Table 4, item 1.
52.	Tasmanian Networks Pty. Ltd.	TasNetworks agree that having GPS coordinates would potentially allow metering points to be located with greater ease. However the process to collect and populate the information would take significant cost and effort, which in TasNetworks' opinion would outweigh any benefits.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

No.	Consulted person	Issue	AEMO response
53.	United Energy	United Energy does not support AEMO's proposal to use 'Designated regional area postcodes' as we believe the use of DLF's is a more accurate and is the existing industry standard to distinguish between rural and urban areas/suburbs.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.
54.	Vector Metering	See 4. Above. Some recognition is required for sites that have already been installed and will not be revisited for some time.	AEMO notes the respondent's comment and refers to the response in Table 4, item 1.

Table 5 Network Additional Information field

No.	Consulted person	Issue	AEMO response
Q7 What uses do participants (retailers, networks and metering parties) have for the Network Additional Information field?			
1.	AGL	Given the upcoming change sin DER and other network activities, AGL suggest that this field may be useful for additional information relating to Network activities.	AEMO notes the respondent's support for the inclusion of the field. Based on the responses received AEMO will keep this field.
2.	Ausgrid	Meter location and hazard codes are what Ausgrid stores as network information. Ausgrid would not want MPs deleting this information and updating with their own information and vice versa.	AEMO notes the respondent's support for the inclusion of the field and refers to the response in Table 5, item 1. The Meter Location and Hazard fields also exist in MSATS and are for completion by an MPB only. The Network Additional Information field is not intended to duplicate already existing details in other fields. In addition, the only field a LNSP can update in the Meter Register Table is the Network Tariff Code, the Network Additional Information field must be completed by a MPB. The Network Additional Information field was designed when the networks where the MPB, hence the use of term 'Network', rather than under the meter competition scenarios now when they're the LNSP is not always the MPB.
3.	AusNet Services (inclusive of Mondo)	AusNet Services does not utilise this field.	AEMO notes the respondent's comment.

No.	Consulted person	Issue	AEMO response
4.	CitiPower Powercor	CitiPower Powercor does not use this field.	AEMO notes the respondent's comment.
5.	Endeavour Energy	We generally populate this field with a text description of the network tariff.	AEMO notes the respondent's comment.
6.	Energex, Ergon Energy, Metering Dynamics	Energex and Ergon MDP/LNSP utilise this field for the Time of Use Splits on COMMS metering to bill correctly. It should be noted that the information provided is specific to Energex and Ergon. Energex and Ergon LNSP utilise this field to advertise retrospective dates relating to tariff changes – this information is utilised by other Market Participants. Metering Dynamics do not utilise this field.	AEMO notes the Energex and Ergon's support for the inclusion of the field and refers to the responses in Table 5, items 1 and 2.
7.	EnergyAustralia	The most common use is for meter access/location information, i.e. Meter access is through access door on Smith Street.	AEMO notes the respondent's comment. The Network Additional Information field is intended for network details and it is not intended to duplicate already existing details in other fields. AEMO notes that the Meter Location field exists for additional locational details of the meter and is proposed to be made Required and the character length increased to allow for more locational details. that the Meter Location field exists for additional locational details of the meter and is proposed to be made Required and expanded to capture more locational details.
8.	ERM Power	No use.	AEMO notes the respondent's comment.
9.	Evoenergy	This field is not used by Evoenergy	AEMO notes the respondent's comment.
10.	Intellihub	Not used by us.	AEMO notes the respondent's comment.
11.	Origin Energy	Origin Energy use this for site specific location details where the GPS coordiates may not be accurate i.e. which road to turn down. This field can also provide details that may not be updated elsewhere. Useful additional details include information for Meter Configurations, Networks Tariff and site/location.	AEMO notes the respondent's support for the inclusion of the field and refers to the response in Table 5, items 1 and 7.
12.	PLUS ES	PLUS ES does not currently use the Network Additional field.	AEMO notes the respondent's comment.

No.	Consulted person	Issue	AEMO response
13.	Powermetric Metering	Nil – as Powermetric do not use this field.	AEMO notes the respondent's comment.
14.	Red Energy and Lumo Energy	Red and Lumo consider that this field would be useful, especially for manually read meters. We expect that this field will contain any access information and additional meter location information as a free text field. It may be possible to enumerate this information, however due to the multitude of permutations and access variances, free text may be more appropriate. All additional information that will assist in creating a positive customer experience, when communicating with customers about what could impede on access to the meter or confirm where it can be located.	AEMO notes the respondent's support for the inclusion of the field and refers to the responses in Table 5, items 1 and 7.
15.	SA Power Networks	SA Power Networks have not identified a use for this field/information.	AEMO notes the respondent's comment.
16.	Tasmanian Networks Pty. Ltd.	TasNetworks (as type 6 MPB) use this field to communicate the register circuit information and the meter tariff code (which are required by the major retailer in Tasmania).	AEMO notes the respondent's support for the inclusion of the field and refers to the response in Table 5, item 1.
17.	United Energy	United Energy does not use this field.	AEMO notes the respondent's comment.
18.	Vector Metering	Vector Metering does not use this field.	AEMO notes the respondent's comment.
Q8 Are there other fields that may be suitable to apply this information? For example, Meter Location field with an increased character length available for the field.			
19.	AGL	Meter location field should be extended as this will assist with the removal of information from other fields.	AEMO notes the respondent's support for the increased character length for the Meter Location field to capture meter locational details to allow the removal of this information from other fields.
20.	AusNet Services (inclusive of Mondo)	AusNet Services believes that the Network Additional Information is not related to Meter Location in practice. If used at all, it probably refers to Network Tariff information which is unrelated to location. We suggest that AEMO perform a data profiling exercise to ascertain the use of this field. Therefore, we do not support using the Meter Location field in lieu of the "Network Additional Information" field.	AEMO notes the respondent's support for using this field for additional network details rather than meter location details and maintaining both fields. AEMO agrees that Meter Location information should be in Meter Location field.

No.	Consulted person	Issue	AEMO response
21.	CitiPower Powercor	N/A	
22.	Endeavour Energy	We do not believe that a text description of the network tariff is required given that the network tariff code is the primary information for network tariffs. Also, should someone want the text description of the network tariff then this is available in the network tariff code list within MSATS – see examples below: **Network Tariff Codes** LNSP: INTEGP INTEGP | ENSL | Streetlighting INTEGP | ENTL | NTL Traffic Control Signal Lights	AEMO notes that this field is designed to capture any additional network details a network, in their role as a MPB, wishes to provide at a register identifier level. The Network Additional Information field is not specific to providing network tariff details and it is not intended to duplicate already existing details in other fields.
23.	Energex, Ergon Energy, Metering Dynamics	No comment.	
24.	EnergyAustralia	Yes, the Meter Location field with an increased character length would be a suitable replacement for any meter location/access information previously stored in the Network Additional Information Field.	AEMO notes the respondent's comment and refers to the response in Table 5, item 19.
25.	ERM Power	Meter location with expanded characters.	AEMO notes the respondent's comment and refers to the response in Table 5, item 19.
26.	Evoenergy	AEMO and Tas Networks should discuss this further for consideration. Preferred option is to remove the field.	AEMO notes the respondent's support for removing the field, however, since a number of respondent's have indicated a use for this field, the field will remain.
27.	Intellihub	Possibly.	AEMO notes the respondent's comment.
28.	Origin Energy	Origin Energy support the introduction of a Meter Location field as it can be useful with GPS coordinates to give an indication of how to locate the meter. An increased character length would be beneficial to allow for more information.	AEMO notes the respondent's comment and refers to the response in Table 5, item 19.
29.	PLUS ES	Not sure without knowing the details maintained in the Network Additional Information field. PLUS ES wants to ensure in the scenario that there is another field suitable to apply the Network Additional Information, one participant should not be able to overwrite the	AEMO notes the respondent's comment and refers to the response in Table 5, item 2.

No.	Consulted person	Issue	AEMO response
		details added by another. I.e. MP's details are maintained, if a LNSP adds details to the same field and vice versa.	
30.	Powermetric Metering	Meter location with expanded characters.	AEMO notes the respondent's comment and refers to the response in Table 5, item 19.
31.	Red Energy and Lumo Energy	No comment at this time	
32.	Tasmanian Networks Pty. Ltd.	The information included in this field is partly based at register level and therefore the Meter Location field would not be appropriate, nor would any other field on the Meter Register table.	AEMO notes the respondent's support for using this field and refers to the response in Table 5, item 20.
33.	United Energy	N/A	
34.	Vector Metering	n/a	
Q9 Do you agree with retaining the Network Additional Information field?			
35.	AGL	Yes	AEMO notes the respondent's support for the inclusion of the field.
36.	Ausgrid	Ausgrid has no strong opinion on this field so long as if it is included it cannot be overwritten by other parties. Networks can store data relevant to the network, in network systems, it does not necessiliary need to be stored in MSATS.	AEMO notes the respondent's comment.
37.	AusNet Services (inclusive of Mondo)	If used by other participants, then AusNet Services supports retaining the field in its current state	AEMO notes the respondent's support for the inclusion of the field, since a number of respondent's have indicated a use for this field.
38.	CitiPower Powercor	CitiPower Powercor does not have a position on retaining this field other than we don't want it becoming mandatory or required.	AEMO notes the respondent's comment. AEMO intends to keep this field as Optional as the field is open for any undefined additional information the network wishes to provide as a MPB.
39.	Endeavour Energy	No, we suggest that the Network Additional Information field be removed. If this field is to be kept then given the name, and therefore the intent, of the field then this field should be the responsibility of the LNSP to populate.	AEMO notes the respondent's comment.

No.	Consulted person	Issue	AEMO response
40.	Energex, Ergon Energy, Metering Dynamics	We do not object to retaining this field as long as its use is not made mandatory.	AEMO notes the respondent's comment.
41.	EnergyAustralia	If all information historically stored in the filed can be located in other fields (existing & proposed), then EnergyAustralia does not see a need to keep the field.	AEMO notes the respondent's comment.
42.	ERM Power	No	AEMO notes the respondent's comment.
43.	Evoenergy	No, as it does not provide value to the process. If Tasmania use it for their meter register circuit information, then make it Required for them, and Not Required for all others.	AEMO notes the respondent's comment.
44.	Intellihub	Cannot see the value at the moment.	AEMO notes the respondent's comment.
45.	Origin Energy	Origin Energy support retaining the Network Additional Information field. Can AEMO confirm if there is a set character limit for this field?	AEMO notes the respondent's support for the inclusion of the field.
46.	PLUS ES	PLUS ES has no comment.	
47.	Powermetric Metering	No – Not used by Powermetric	AEMO notes the respondent's comment.
48.	Red Energy and Lumo Energy	Red and Lumo support retaining this field.	AEMO notes the respondent's support for the inclusion of the field.
49.	Tasmanian Networks Pty. Ltd.	Yes	AEMO notes the respondent's support for the inclusion of the field.
50.	United Energy	United Energy does not have a position on retaining this field other than we don't want it becoming mandatory or required.	AEMO notes the respondent's comment and refers to the response in Table 5, item 38.
51.	Vector Metering	No preference.	AEMO notes the respondent's comment.

Data Transition

Table 6 Scenario 1: Drop existing columns (To Remove)

No.	Consulted person	Issue	AEMO response
Q10 For Removed fields, would you prefer Option 1 (retain history) or Option 2 (remove history)?			
1.	AGL	In general, AGL would suggest that Option 1 (retaining the fields for historical data) be the initial data transition point. AGL would suggest that in an agreed period (eg 5 years) those fields could then be removed. If the fields are to be removed, then AGL would suggest that the information be retained in some way which could be retrieved relatively easily.	AEMO notes the respondent's choice of options. A majority of respondents are in favour of removing field history. AEMO intends to run a workshop with industry business and IT representatives to work through the details for data transition across each field that is new, amended or removed and this feedback will be included in the material developed for the workshop. AEMO notes that participants will have the option to request an MSATS snapshot to retrieve the information they require prior to a field being unavailable in MSATS.
2.	Ausgrid	Option 2.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
3.	Ausnet Services	Option 2 (remove history) since the fields have no current or future use.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
4.	Citipower Powercor	CitiPower Powercor supports option 2 but for records such as unstructured addresses we would request an extract of these before they are deleted to assist with updating the structured address.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
5.	Endeavour	We believe that both options are required. Most data fields being deleted is because there is minimal data populated for these fields or there is non-usable data populated, therefore option 2 would be most suitable for these fields. However for some deleted data fields option 1 may be more suitable, for example the unstructured address fields.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
6.	Energy Australia	Retain history, unless this information causes confusion.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
7.	Energy QLD (EQL)	Our preference is for Option 2, as population of this data is currently limited or inaccurate and will eventually become outdated.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.

No.	Consulted person	Issue	AEMO response
8.	ERM	Option 2	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
9.	Evoenergy	Option 2	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
10.	Intellihub	Option 2	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
11.	Origin	Option 1	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
12.	PLUS ES	PLUS ES prefers option 2 for removed fields. No benefit in retaining fields where the data will become obsolete due to the inability to update. Fields are being removed as they are not currently populated, or the majority of participants have agreed to remove as they do not add value.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
13.	Powermetric	Option 2	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
14.	Red and Lumo	Red and Lumo consider that until a final decision has been made on which fields will be removed, then we are unable to make an informed decision in regards to this question. We consider that this will be the case for most other participants too, and we recommend that AEMO re-raise this question for consideration after the final decision on which fields will be removed	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
15.	SA Power Networks (SAPN)	SA Power Networks support option 1.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
16.	TasNetworks	TasNetworks' preference is Option 1. We would also prefer for CATS notifications not to be rejected if a removed field was provided.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
17.	United Energy (UE)	United Energy supports option 2 but for records such as unstructured addresses we would request an extract of these before they are deleted to assist with updating the structured address.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.
18.	Vector	Option 1.	AEMO notes the respondent's choice of options and refers to the response in Table 6, item 1.

Table 7 Scenario 2: Add a new field (Proposed Fields)

No.	Consulted person	Issue	AEMO response
Q11 For Added fields, would you prefer Option 1, 2a, 2b, 2c, 3, 4 or 5?			
1.	AGL	AGL notes that there are various options for updating these fields, but the preferred choice will also be dependent on the mechanisms used to update participants. AGL suggests that a working group (eg SWG/ITDF) be utilised to develop the most efficient data update mechanism for participants. See Q20.	AEMO notes the respondent's choice of options and intends to run a workshop with industry business and IT representatives to work through the details for data transition across each field that is new, amended or removed and this feedback will be included in the material developed for the workshop.
2.	Ausgrid	Option 4	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
3.	Ausnet Services	Option 2a) – i(b) – We assume that two-dimensional model updates require a level of reconciliation between AEMO and the participants.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
4.	Citipower Powercor	CitiPower Powercor supports option 2a ii. We don't envisage too many instances of data being bulk uploaded for new fields. We may have data for some but don't intend to retrospectively collect and update new fields, these will be updated as we visit sites as part of our BAU activity.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
5.	Endeavour	We believe that all options are required - some option is more suitable for certain data field and the market participant. Allowing different options will provide flexibility for market participants to choose the most cost-effective method for them.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
6.	Energy Australia	Option 1. Update data via inbound CR. The process is already there, and a lot of the data will be updated sporadically across a 12-month period. Potentially split the data into two tranches, updates that can be done in bulk and data that needs longer to obtain/populate.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
7.	EQL	Our preference is for Option 4.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
8.	ERM	Option 3	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.

No.	Consulted person	Issue	AEMO response
9.	Evoenergy	Option 1	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
10.	Intellihub	2a	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
11.	Origin	Origin Energy's preference is for Option 4.This will allows a field by field review the ability to either just fill as you go (CR inbound), or AEMO derive from existing data and fill, or participants fill using a Bulk Data Tool from their own data sources to pre-seed the new value.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
12.	PLUS ES	Option 4: see appendix for preferred method.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
13.	Powermetric	Option 3	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
14.	Red and Lumo	Red and Lumo consider that until a final decision has been made on which fields will be removed, then we are unable to make an informed decision in regards to this question. We consider that this will be the case for most other participants too, and we recommend that AEMO re-raise this question for consideration after the final decision on which fields will be removed	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
15.	SA Power Networks (SAPN)	SA Power Networks support option 4	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
16.	TasNetworks	TasNetworks' preference is Option 4. Please see appended Table A	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
17.	UE	United Energy supports option 2a ii. We don't envisage too many instances of data being bulk uploaded for new fields. We may have data for some but don't intend to retrospectively collect and update new fields, these will be updated as we visit sites as part of our BAU activity.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
18.	Vector	Option 1.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
Q12 If you choose Option 2a, please choose between i(a) or i(b) and provide answers for ii.			

No.	Consulted person	Issue	AEMO response
19.	Ausnet Services	i(b) – We assume that two-dimensional model updates require a level of reconciliation between AEMO and the participants.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
20.	Endeavour	We believe that both options are required. The most suitable option for each data field will be dependent on further data analysis later in this industry project and each market participant should be given the flexibility to choose the most cost-effective approach for their data field.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
21.	Intellihub	i(a) receipt of notifications are preferred.	AEMO notes the respondent's choice of options AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
Q13 If you choose Option 2b, please choose between i(a) or i(b) and provide answers for ii and iii.			
22.	Endeavour	See answer for Q12	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
Q14 If you choose Option 2c, please choose between for i(a) or i(b).			
23.	Endeavour	See answer for Q12	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
Q15 Do you have any further comment regarding the above?			
24.	Ausgrid	Ausgrid would support bulk update with notifications.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
25.	Ausnet Services	We assume that two-dimensional model updates require a level of reconciliation between AEMO and the participants. First step Test Run/Report, then Second step Check/Reconcile/Commit to Database. Please confirm or clarify.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
26.	Endeavour	Together as an industry we should consider the transition approach after the final determination to ensure that data is populated as soon as possible and in a manner to minimise impacts to other market participants. Given that systems and processes are reliant on data, the industry testing phase should be longer than a normal to allow for participants to populate the test environment with the appropriate data and allow for market participants to test their end to end process with the new data.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.

No.	Consulted person	Issue	AEMO response
27.	EQL	We agree to work with AEMO to populate the required fields as necessary.	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.
28.	Origin	If industry is going to effort to create new fields to create value for the market it makes sense to populate the most valuable field using the most effective mechanism i.e. if a updating individual sites by CR's will take months/years to complete then having the option of a bulk change would be beneficial	AEMO notes the respondent's choice of options and refers to the response in Table 7, item 1.

Table 8 Scenario 3: Amend an existing field (To Amend)

No.	Consulted person	Issue	AEMO response
Q16 For Amended fields, would you prefer Option 1, 2a, 2b, 3, 4 or 5?			
1.	AGL	For fields where data is to be amended, the current records should be copied and made available (like the deleted information) and then emptied. The updating process could then follow the same process used for new fields, thus maintaining a consistent process which could be used for all data updates.	AEMO notes the respondent's choice of options. A majority of respondents are in favour of removing field history, AEMO refers to the responses in Table 6 for removed fields. AEMO intends to run a workshop with industry business and IT representatives to work through the details for data transition across each field that is new, amended or removed and this feedback will be included in the material developed for the workshop.
2.	Ausgrid	Option 4.	AEMO notes the respondent's choice of options and intends to run a workshop with industry business and IT representatives to work through the details for data transition across each field that is new, amended or removed and this feedback will be included in the material developed for the workshop.
3.	Ausnet Services	Option 2a) – i(b) – We assume that two-dimensional model updates require a level of reconciliation between AEMO and the participants.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
4.	Endeavour	See answer for Q11	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.

No.	Consulted person	Issue	AEMO response
5.	Energy Australia	Option 1. Update data via inbound CR. The process is already there, and a lot of the data will be updated sporadically across a 12-month period.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
6.	EQL	Our preference is for Option 4.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
7.	ERM	Option 3	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
8.	Evoenergy	Option 1	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
9.	Intellihub	2a	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
10.	Origin	Origin Energy's preference is for Option 4.This will allows a field by field review the ability to either just fill as you go (CR inbound), or AEMO derive from existing data and fill, or participants fill using a Bulk Data Tool from their own data sources to pre-seed the new value.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
11.	PLUS ES	Option 4	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
12.	Powermetric	Option 3	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
13.	Red and Lumo	Red and Lumo consider that until a final decision has been made on which fields will be removed, then we are unable to make an informed decision in regards to this question. We consider that this will be the case for most other participants too, and we recommend that AEMO re-raise this question for consideration after the final decision on which fields will be removed	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
14.	SA Power Networks (SAPN)	SA Power Networks support option 4	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
15.	TasNetworks	TasNetworks' preference is Option 4. Please see appended Table B	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
16.	UE	United Energy supports option 2a ii.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.

No.	Consulted person	Issue	AEMO response
		We don't envisage too many instances of data being bulk uploaded for amended fields. We may have data for some but don't intend to retrospectively collect and update amended fields, these will be updated as we visit sites as part of our BAU activity.	
17.	Vector	Option 1.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
Q17 If you choose Option 2a, please choose between i(a) or i(b) and provide answers for ii.			
18.	Ausnet Services	i(b) – We assume that two-dimensional model updates require a level of reconciliation between AEMO and the participants.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
19.	Endeavour	See answer for Q12	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
20.	Intellihub	i(a)	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
Q18 If you choose Option 2b, please choose between i(a) or i(b) and provide answers for ii and iii.			
21.	Endeavour	See answer for Q12	AEMO notes the respondent's comment and refers to the response in Table 8, item 2.
Q19 Please provide any further details required			
22.	Ausgrid	Ausgrid would support bulk update with notifications.	AEMO notes the respondent's proposal for a bulk update with notifications and refers to the response in Table 8, item 2.
23.	Ausnet Services	We assume that two-dimensional model updates require a level of reconciliation between AEMO and the participants. First step Test Run/Report, then Second step Check/Reconcile/Commit to Database. Please confirm or clarify.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
24.	Endeavour	We support a solution that allows for changes to be made with a very short notice period. If removing the enumerations from the aseXML and validating the enumerations when processing a Change Request enables quick alterations of the enumerations, then we would support this approach.	AEMO notes the respondent's proposal and refers to the response in Table 8, item 2.

No.	Consulted person	Issue	AEMO response
25.	EQL	We agree to work with AEMO to populate the required fields as necessary.	AEMO notes the respondent's support for working with AEMO and refers to the response in Table 8, item 2.
26.	ERM	A cleaner approach is to create new fields instead of repurposing the existing fields.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
27.	Origin	For efficiency whether the fields are new or amended the same process can be applied to both to allow for a one pass process.	AEMO notes the respondent's proposal and refers to the response in Table 8, item 2.
28.	PLUS ES	PLUS ES notes that the method depends on the field considered. Further recommend: - that a validation is performed on existing data before amending fields - when new fields are created for existing data, to separate existing fields, the existing fields should only be removed once the participants are comfortable that the data has been populated in the new fields. i.e Transformer Ratio (existing) split to CT Ratio and VT Ratio (new fields)	AEMO notes the respondent's comment and refers to the response in Table 8, item 2.
29.	Powermetric	Prefer for new field to be created rather than repurposing existing fields.	AEMO notes the respondent's choice of options and refers to the response in Table 8, item 2.
30.	Vector	A volumetrics model should be built so that participants can see the number of transactions that are likely to be generated. This will allow them to determine if their connection to MSATS is appropriate.	AEMO notes the respondent's proposal and refers to the response in Table 8, item 2.

Table 9 Outbound Notification Options

No.	Consulted person	Issue	AEMO response
Q20 For Outbound Notifications, would you prefer Option 1, 1a, 2, or 3?			
1.	AGL	AGL notes the provided options and considers that resolving this matter quickly is perhaps a key aspect to the proposed changes for both this NMI Standing Data consultation and the proposed changes for 5ms / Global.	AEMO notes the respondent's choice of options and intends to run a workshop with industry business and IT representatives to work through the details for data transition across each field that is new, amended or removed and will include notification options in the

No.	Consulted person	Issue	AEMO response
		AGL expects that there will be more data changes than have currently identified for NMI standing Data and 5ms / Global and that development of the data updating mechanisms need to be developed. As such, AGL strongly suggests that AEMO and industry work together via the SWG/ITDF etc to develop the data roadmap for the NEM retail market as a high priority and put in place mechanisms to ensure data integrity at all stages of the process. To this end AGL suggests that such an initial meeting be organised as soon as possible to establish the most efficient mechanisms for industry. AGL believes that the outcomes of these decisions impacts the 5ms/global settlements project as much as the NMI Standing Data project, and in particular, some timeframes associated with Standing data changes for the 5ms/global project could be reviewed and updated once the decision on data management is made. Noting that many participant processes (especially those relating to customers) are triggered by CRs, AGL suggests that this form of data interchange cannot cease as yet. However, as part of the proposed MSATS data Changes, and the implementation of 5ms/Global, there are expected to be a substantial number of bulk data updates ongoing for some years, such as meter reconfigurations from 30m to 5m. For this reason, AGL considers that data updates would need to be a mix of bulk updates, which are probably best handled via a Data Interchange or Infoserver mechanism with CRs handling low volume and customer updates. AGL is unclear about further detail associated with the Data Interchange proposal, such as the provision of a data model and data scripts, however, AGL is assuming these would be provided for efficiency purposes. As such, AGL would suggest that many of these updates (eg GPS coordinates) etc be managed as bulk updates scheduled to be run on weekends, and the information provided through the Data Interchange style process on the weekends. For example, data is uploaded by participants to AEMO Friday, Saturday AEMP processes data and downloads it to participants, which leaves Sundays for Participants to process the data within their internal systems. This would leave the existing MarketNet bandwidth to manage the BAU CR processes during the week.	discussion. This feedback will be included in the material developed for the workshop.
2.	Ausgrid	Option 1	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.

No.	Consulted person	Issue	AEMO response
3.	Ausnet Services	Option 2 – MSATS Snapshot to synchronise the data internally. AusNet Services wishes to reduce the volume of CATS Transactions in the market thereby reducing impact on participants' inbound CATS processing. Ensuring CATS Processing limits are not exceeded.	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
4.	Citipower Powercor	CitiPower Powercor supports option 2.	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
5.	Endeavour	We believe that all options are required with each option more suitable for certain market participants. Allowing different options will provide flexibility for market participants to choose the notification method they prefer, which may de be dependent on their system capability and how soon they want to receive the data given that each market participant will value each data field differently.	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
6.	Energy Australia	1	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
7.	EQL	Our preference is for Option 2.	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
8.	ERM	Option 1a. Also need more details on option 3 to validate the best approach here.	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
9.	Evoenergy	Option 2	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
10.	Intellihub	1	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
11.	Origin	Origin Energy's preference is Option 1. This is because the SDR is updated daily via C1 reports and pick up any changes in the standing data as they are carried out. A snapshot reconciliation can also be carried out post changes for a sanity check.	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
12.	PLUS ES	PLUS ES preference is Option 1	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
13.	Powermetric	Option 1a	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.

No.	Consulted person	Issue	AEMO response
14.	Red and Lumo	Red and Lumo consider that until a final decision has been made on which fields will be removed, then we are unable to make an informed decision in regards to this question. We consider that this will be the case for most other participants too, and we recommend that AEMO re-raise this question for consideration after the final decision on which fields will be removed	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
15.	SA Power Networks (SAPN)	SA Power Networks support option 2	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
16.	TasNetworks	TasNetworks' preference is Option 1	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
17.	UE	United Energy supports option 2.	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
18.	Vector	Option 1.	AEMO notes the respondent's choice of options and refers to the response in Table 9, item 1.
Q21 Do you have an alternate method of receiving Outbound Notifications? If so, please provide details			
19.	AGL	AGL is aware that some consideration has been given to a central Standing Data Repository, which AGL supports, and which would remove the notification issue.	AEMO notes the respondent's proposal and refers to the response in Table 9, item 1.
20.	Endeavour	We suggest that an alternative to option 1a is for MSATS to be updated to allow each market participant to configure if they only want one notification for a group of participant ids that a market participant owns. For example, Networks are usually the LNSP, RP, MPB, MPC and MDP for type 5, 6, 7 and in future NCONUML NMIs and most Networks have a common system to process the notifications for these roles. Therefore only one notification is required - subsequent notifications under the other roles are redundant and therefore provides no value. If this alternative option is to be adopted then it should always be available, as opposed to being only available for the purpose of this project.	AEMO notes the respondent's proposal and refers to the response in Table 9, item 1.
21.	Ausgrid, EQL, UE	No	AEMO notes the respondent's comment.

No.	Consulted person	Issue	AEMO response
22.	ERM	Should consider C4 report.	AEMO notes the respondent's comment and refers to the response in Table 9, item 1. The C4 report is an existing notification process that could be used.
23.	Evoenergy	Prefer csv file to manage only those uploads necessary for Evoenergy business.	AEMO notes the respondent's proposal and refers to the response in Table 9, item 1.
24.	Intellihub	Not specifically	AEMO notes the respondent's comment.
25.	Powermetric	Should consider C4 report.	AEMO notes the respondent's proposal and refers to the response in Table 9, item 1.
26.	Vector	We support AEMO exploring the use of replication as an alternate method of updating MSATS date, especially if it could be used to provide near-real-time updates to MSATS data e.g. Meter Register status code.	AEMO notes the respondent's proposal and refers to the response in Table 9, item 1.

PLUS ES' preferred transition model

Field	Data Population Option
G-NAF PID	Bulk – No Notification
TNI2	CRs
meter malfuctionexeption number	CRs
malfunction exempion expiy date	CRs
CT Accuracy Class and VT Accuracy Class.	CRs
CT Test and VT Test.	CRs
CT Sample Family ID and VT Sample Family ID.	CRs
CT Test Date and VT Test Date	CRs
CT Location and VT Location	CRs
CT Ratio and VT Ratio.	CRs
CT Type and VT Type.	CRs
Shared fuses	

Field	Data Population Option
GPS co-ordinates	Bulk – No Notification
Section and DP Numbers	Bulk – No Notification

Tasnetworks appendix Table A

Added field	DATA POPULATION OPTION
G-NAF PID	2c
Section Number	2c
DP Number	2c
Transmission Node Identifier 2	2c
House Number To	1
Meter Malfunction Exemption Number	2c
Meter Malfunction Expiry Date	2c
MRAM Reason	2c
CT Location	2a
CT Ratio	2a
CT Type	2a
CT Accuracy Class	2a
CT Last Test Date	2a
VT Location	2a
VT Ratio	2a
VT Type	2a
VT Accuracy Class	2a
VT Last Test Date	2a
Connection Configuration	2b
Shared Isolation Point Flag	1
GPS Coordinates	1

Tasnetworks appendix Table B

Amended Field	Data Population Option
Controlled Load	2a
Feeder Class	2a
Last Test Date	2b
Meter Location	2a
Meter Manufacturer	2a
Meter Model	2a
Meter Read Type Code	2b
Meter Test Result Accuracy	2b
Meter Use	2a
Next Scheduled Read Date	1
Time of Day	2a

Other Matters

Table 10 Consumer Data Right

No.	Consulted person	Issue	AEMO response
Q22 Do you agree with the proposed new fields?			
1.	AGL	AGL does not support the addition of new fields until the ACCC has finalised its own processes and resolved the customer consent and authorisation processes for energy. AEMO should be making 'no regrets' changes to MSATS with respect to CDR needs. This change is not a 'no regrets' proposal as the final designation instrument and ACCC Rules may result in a consumer consent and authentication model that does not require such changes. This may result in industry and AEMO incurring costs for building system changes that do not support the end CDR framework for energy that would need to be unwound/redefined. This therefore is not in the interests of the consumer who may wear unnecessary costs.	AEMO notes the respondent's comment. AEMO will consider the feedback more broadly in the context of the ACCC's energy CDR initiative. In the interim, AEMO proposes to remove these matters related to the energy CDR from this MSATS standing data review, as a specific focus of consultation. In AEMO's view, the consideration of any related changes to MSATS would need to be in the future, as informed by energy CDR developments. In this context, AEMO understands that a highest priority is

No.	Consulted person	Issue	AEMO response
			to ensure the relevant privacy controls in respect of personal or sensitive information. In this regard, the intention of the two proposed fields is to help to enable the correct data relating to an authenticated customer to be securely and efficiently shared with an accredited third party, in line with the customer's consent. Specifically, these fields would provide visibility over when data access should be granted or revoked, when a NMI has changed customer. However, these fields would not include consumer data. AEMO handles such consumer data as a function of its services, but does not store such data in AEMO systems. Instead, the B2B procedures set out the processes by which participants store – as well as obtain, exchange and manage – such data.
2.	Ausgrid	No, customer related information should not be stored in MSATS.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
3.	AusNet Services	AusNet Services agrees with the inclusion of the new fields to support CDR as reasonable solution. These fields may potentially also assist LNSPs for planned outage notifications, and assist in LNSP's MDPP obligations.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
4.	CitiPower Powercor	CitiPower Powercor does not have a position as this matter is not applicable to our business.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
5.	Endeavour Energy	No comments	
6.	EnergyAustralia	If retailers are still 'data holders', it is not clear why this needs to be in MSATS; retailers being responsible for billing, customer info, and plan data. If it is required, why does there need to be two fields? Can't the change of account holder only be updated from the effective date? This seems like a field that has been created to asses retailer's conformity with the NEM Customer Switching rule change!	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
7.	Energex and Ergon Energy Network and	We support the two new fields.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.

No.	Consulted person	Issue	AEMO response
	Metering Dynamics		
8.	ERM Power	Yes	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
9.	EvoEnergy	The new proposed fields accommodate the ACCC requirements, but why have the flag for when an account holder changes? Will a Retailer change also set this flag?	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
10.	Intellihub	N/A	
11.	Origin Energy	Origin Energy seek clarification on the following: How would the account holder be defined? If a secondary account holder was added or deleted – would this trigger a change in account holder notification? A customer may have multiple NMIs – is there functionality to send to all NMIs? In addition this field would need to cater for both in-situ (move-in with the same FRMP) and transfer (new customers with new FRMP). Also note the latter has implications from a Customer Switching perspective, where the losing FRMP does not get notified until the transfer is completed. If the account holder goes from a single customer to joint, is that deemed to be a change? Origin Energy believes that it is inappropriate that this change has been requested to MSATS given that there has been no discussion nor consultation with industry over authentication/authorisation models for Consumer Data Right. Due process should be followed where the ACCC consults on the proposed authentication model, a decision is made and then requests are made to the relevant regulatory instruments to accommodate the ACCC's decision. Data should not be released without the appropriate authentication that the data is relevant to the person who is requesting the data. Origin Energy believes that there are potential privacy risks with the removal to requirement to verify customer details with the party who holds this information. The risks are increased with the proposed broadness of the terms 'customer' and 'associate' in the Energy CDR Designation Instrument.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
12.	PLUS ES	It is hard to make a comment when there is not enough detail on the proposed fields. i.e. Will these two fields be flags or would they contain the account holder's details? PLUS ES understands that this information will have to be provided somehow but questions if this information is to be stored in MSATS. If so, it then sets a possible precedent for other customer related data to be included in MSATS. One could argue	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.

No.	Consulted person	Issue	AEMO response
		the Market settlement and transfers solution is not the database for this information and its intended use.	
13.	Powermetric	Yes	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
14.	Red Lumo	No, Red and Lumo do not agree with the addition of these new fields. The information pertains specifically to the customer themselves, and therefore should not be stored in MSATS. It is sensitive information that if misused or not subject to adequate controls, could jeopardise the privacy and/or safety of a consumer (in the context of family violence, for example). Unlike authorised retailers, there are currently no provisions that apply to AEMO/MSATS to hold personal information. While this will likely be a focus of the forthcoming CDR Rules and of any technical standards for the transfer of data between holders and recipients, we cannot support the proposed new fields until this has been adequately addressed and until all parties with access to MSATS have obligations regarding consumer protections and personal information. This is also consistent with the legal advice that AEMO sought on the life support flag.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
15.	TasNetworks	TasNetworks agrees that the two additional fields will assist with the ability to successfully identify a customer eligible to receive data.	AEMO notes the respondent's support for the proposed change.
16.	United Energy	United Energy does not have a position as this matter is not applicable to our business.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
17.	Vector Metering	It is unclear which entity in the MSATS data model that these new fields will be added to. We recommend a new entity call NMI_Customer that contains non-identifying customer information. The FRMP will be able to 'create' a customer record when a customer moves into a site (which need only be unique ID and effective dates) and then update it once a customer moves out. Obviously, it is possible for NMI's to be vacant for a period so none consecutive periods will need to be supported.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
Q23 What types of scenarios – including specific examples – could be envisaged which would raise complexities whose resolution would be required in order to achieve the data sharing objectives?			
18.	AGL	What constitutes churn is an important question in the CDR context.	AEMO notes the respondent's comment.

No.	Consulted person	Issue	AEMO response
		Treasury is currently consulting on the draft designation instrument for energy where the term 'associate' has been used to extend CDR to those that are not the primary account holder of the electricity arrangement. It is therefore important that changes to MSATS is done on the need as defined by final CDR Rules set by the ACCC, for example – what would constitute churn from a CDR perspective (e.g. if someone is an associate and/or authorised on the account and changes retailers on behalf of the household). These matters are yet to be consulted on by the ACCC and we caution against seeking amendments until further clarity is available. AGL notes that customers can also technically change retailers and then return to their previous retailer (for example, this may occur due to a customer change of mind during a cooling-off period). As such, the change flag/date would have to be unwound (and would need to be appropriately time-stamped). However, what this looks like will again depend on the ACCC position on matters such as corrections of CDR data which will occur under the CDR Rules. We note that these changes to the previous retailer can be processed up to 12 or more months, as a result of an incorrect customer churn. The AEMO faster transfers process (which has been delayed) will also need to be considered. As AEMO is responsible for managing the MSATS systems and Standing Data repositories. In the interests of managing customer churn information efficiently, AGL would expect that AEMO would manage the changes, updates and reversals of any change associated with a FRMP change in the standing data, and a FRMP would not be required to provide an update to AEMO for those situations, as those changes are a direct outcome of an MSATS records. AGL would only expect to provide data where there was a customer churn, but not a FRMP churn, and where that account holder churn matches the ACCC requirements.	AEMO will consider the respondent's feedback in the context of the ACCC's next formal steps in respect of the CDR in energy.
19.	Ausgrid	No, customer related information should not be stored in MSATS.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
20.	AusNet Services	Retailer processes would need to be more precise when triggering a change of account holder, this would resolve any arising complexities such as shared accommodation or embedded networks.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.

No.	Consulted person	Issue	AEMO response
21.	CitiPower Powercor	N/A	
22.	Endeavour Energy	No comments	
23.	EnergyAustralia	Retailers are obligated to send a CDN when a customer changes name/number/mail address. EnergyAustralia has not been able to identify an example for a specific issue.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
24.	Energex and Ergon Energy Network and Metering Dynamics	We suggest that requests for data for multiple NMIs (multiple customers or multiple NMIs for one customer) where only one authorisation has been given would raise complexities requiring resolution. It is unclear how it could be determined if authority for all NMIs is legitimate.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
25.	EvoEnergy	This meets minimum requirements, but the 'Change in Account Holder' values, what are they expected to be? 1. If "Yes" value, then keeps it simple for AEMO. When they get a data sharing request, using the dates from that and the new fields they could do an API call to the retailer/s in that period/s for validation before providing data. Even a third party would still have to quote the customer details. 2. If it is going to have customer details should it also have the phone number for verification that you have the correct person? 3. Should it be a repeating field to accommodate many names? 4. How many verifications are expected in each businesses system? 5. Will it be an API call from AEMO to the Retailer for validation of details before seeking from the 'Data Holder' (DH) the metering data (should the DH do any verification before releasing data)?	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
26.	Intellihub	N/A	
27.	Origin Energy	AEMO propose to include 2 fields: 1. Change of Account Holder 2. Change of Account Holder Effective Date Origin Energy seek clarification on the following:	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.

No.	Consulted person	Issue	AEMO response
		• Can AEMO confirm what the character limit for this field ? • In case of Liquidation ? how will this be handled from Account holder prospective change on standing data? • Insolvency name ? how will this be handled and from Account holder prospective change on standing data Consideration also needs to be given to take into account privacy aspects i.e. customers personal situation and the proposed broadness of the terms 'customer' and 'associate' in the draft Desgination Instrument. There is the potential for data relevant to an 'associate' to be released with a general CDR request. The terms need to be refinded in the Rules The broadness of these terms need to be determined prior to setting standards in MSATS. Note: the Data Standards Body is currently consulting on the data standard for CDR. There has been debate over 'what is an account' and how it should be defined for CDR purposes. Any changes to MSATS should reflect the standards developed by the Data Standards Body to minimise confusion and costs.	
32.	PLUS ES	The fields proposed will not deliver any value unless one is able to validate the customer consenting is the customer account holder. • A customer has changed FRMP but remains the account holder of the site. • A customer has moved and changed FRMP How is the FRMP to validate the account holder • A customer has moved out but the FRMP is the same. Retailers systems are based on the account holder/customer, MSATS has the NMI as a Unique identifier and is not a customer database.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
33.	Powermetric	No comments	
34.	Red Lumo	As per above, Red and Lumo object to these new fields to be added in MSATS.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
35.	TasNetworks	N/A	
36.	United Energy	N/A	
37.	Vector Metering	As MC/MP/MDP we are not a designated data holder for CDR therefore have no comment on the solution.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.

No.	Consulted person	Issue	AEMO response
Q24 What sorts of consequences – including potential unintended consequences – may need to be considered in respect of these fields?			
38.	AGL	The CDR data and consents model is built on a foundation of strong consumer protections. We have concerns that these flags may be used to support a model of lesser consumer consent (e.g. the AEMO resident model) which we believe may undermine the CDR process. For example, it may encourage third party providers to only display/promote data access that is under this lesser 'resident' model, and therefore consumers may forgo other data (e.g. billing data) that may provide a more accurate assessment of what the retailer may gain / lose by changing retailers and/or products. As this ties in with customer provided data, such as concessional information, discounts, eligibility etc, this is important information that may result in consumer detriment if not properly managed.	AEMO notes the respondent's comment and refers to the response in Table 10, item 11.
39.	Ausgrid	No, customer related information should not be stored in MSATS.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
40.	AusNet Services	These fields should not be used by participants (unrelated parties) to target customers for commercial purposes. Should only be used for purposes allowed by electricity law (AEMO and retailers for data access, and LSNPs for outage interruption notices).	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
41.	CitiPower Powercor	N/A	
42.	Endeavour Energy	No comments	
43.	EnergyAustralia	The information is now more 'customer' related than 'site', therefore it runs the risk of being a breach of privacy; i.e. a participant will now be able to identify the changes at a site that have occurred since the customer has been at the property (such as solar install), they would have previously been able to identify that this had occurred at the site but not had the confirmation that it occurred during the tenure of a customer. This is still just a small risk as there are no identifiable details provided for the customer (name, etc).	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.

No.	Consulted person	Issue	AEMO response
44.	Energex and Ergon Energy Network and Metering Dynamics	If an LNSP is notified of a change of account holder we would initiate an NTC where the tariff has been grandfathered, i.e. solar.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
45.	EvoEnergy	How do you know if J Doe is the same J Doe, or if John and Jane Doe have a messy separation, without having more information that the retailer would hold?	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
46.	Intellihub	N/A	
47.	Origin Energy	As part of the customer switching rules, AEMO has proposed that customers will be able to switch between retailers and products on a 65 business day retrospective basis. Thus, when the customer enters into a new product plan, the customer could change or the details of the customer could change on a 65 business day retrospective basis. Therefore, change of customer details could also occur on a 65 business day retrospective basis. This will need to be addressed. There are specific concerns in relation to renters, For example, you may have 3 renters in a premises, one renter moves out and the new renter changes the name in which the electricity plan is in for the premises. Under the customer switching rules, the new renters name on the account can be backdated up to 65 business days. Questions are then asked when there has been a change of account (65 busines days prior or at the time of taking up the new contract)? This has flow on implications to the management of customers and what data the consumer is entitled to receive.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
48.	PLUS ES	Not enough detail on the fields to determine consequences.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
49.	Powermetric	No comments	
50.	Red Lumo	Having these fields in MSATS would be seen as a breach of personal customer information (and therefore is confidential) under current energy rules and established privacy framework. There could be numerous reasons for a change in the number or status of an account holder at a particular property. For example, a joint account holder may be removing themselves from a family violence situation and the inadvertent disclosure of a change to personal details could jeopardise their safety.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.

No.	Consulted person	Issue	AEMO response
		Retailers have strict controls in place to ensure that all consumer data is protected in all situations. The framework to ensure consumers' privacy and safety is maintained in all situations and which applies equal obligations to all CDR participants (including AEMO) does not yet exist.	
51.	TasNetworks	N/A	
52.	United Energy	N/A	
53.	Vector Metering	Complexities around unknown consumption where the retailer does not know who the customer is at a site will need to be considered and managed appropriately.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
Q25 Do you agree with the timeframe for updating the data in these fields?			
54.	AGL	AGL does not support the proposed timeframe (0 days) being proposed by AEMO. We do not believe that a same-day approach is appropriate for retailers to deliver. AEMO has not provided any clarity as to the need for an urgent update on the day a retailer receives the advice. Such an obligation will create significant resource burdens on our staff and is not practical. We also note that such an approach will likely lead to further updates where information needs to be corrected or reverted. A change of account holder has a number of validations which must be considered. For example, concession eligibility can result in retailer advice to customers that a name change may not be advisable as the current account-holder may be a concession card holder, and the proposed new account-holder does not have a concession card. AGL also again reiterates that it should only be responsible for customer changes which do not include FRMP changes, and that AEMO should be responsible for managing FRMP changes as the system managing that FRMP change is the same system that the FRMP change would need to be recorded in. AGL would propose that the information be updated in 5 business days (consistent with other MSATS NMI Standing Data changes, such as meter exchange) once the account holder has changed (noting the definition of account holder should match the CDR definition in these circumstances). We believe this matter needs to be considered in the context of the final CDR Rules to ensure consistency.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.

No.	Consulted person	Issue	AEMO response
55.	Ausgrid	No, customer related information should not be stored in MSATS.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
56.	AusNet Services	N/A as data proposed to be provided by Retailers.	AEMO notes the respondent's comment.
57.	CitiPower Powercor	N/A	
58.	Endeavour Energy	No comments	
59.	EnergyAustralia	Yes	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
60.	Energex and Ergon Energy Network and Metering Dynamics	We have no objections to the proposed timeframes.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
61.	EvoEnergy	No, as more detail needs to be provided and determined on what is the correct and most efficient way forward.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
62.	Intellihub	N/A	
63.	Origin Energy	Origin Energy is of the view that timeframes should be reflective of current market timeframes.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
64.	PLUS ES	PLUS ES believes it is reasonable as it would have to be automated and Retailers will incur system changes for these fields.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
65.	Powermetric	No comments	
66.	Red Lumo	We do not agree with these fields being included, as such we have no comment on timeframe.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
67.	TasNetworks	TasNetworks agree that the same day timeframe is appropriate for this information to be updated in MSATS.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
68.	United Energy	N/A	

No.	Consulted person	Issue	AEMO response
69.	Vector Metering	No comments	
Q26 Are there other suggestions to help meet the ACCC's objective?			
70.	AGL	No comment	
71.	Ausgrid	No, customer related information should not be stored in MSATS.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
72.	AusNet Services	AEMO should provide a capability for the end-user (current account holder) to enquire regarding who has visibility/access to their consumption data.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
73.	CitiPower Powercor	N/A	
74.	Endeavour Energy	No comments	
75.	EnergyAustralia	There is no private information provided to confirm which customer was linked with the customer transfer, you will still need to reach out to the retailer to confirm. So why have the details in MSATS? The retailer is a data holder, they should be responsible for providing this information.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
76.	Energex and Ergon Energy Network and Metering Dynamics	We seek clarity as to where in MSATS these fields will be located, and how the FRMP will update them. Our preference is that these details are provided via a CDN.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
77.	EvoEnergy	Why not have the flag set by the Accredited Data Recipient (ADR) that determines if data can be shared or not and from what date as that is what the customer would have consented (not exceeding 2 years)? If the ADR was the one that verified and validated the customer information by doing a defined protocol API to the Retailers systems, and the retailer verifying that information as true or false, then when request sent to AEMO, no requirement for any other complexities as other participants in the flow only need the NMI if from AEMO.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
78.	Intellihub	N/A	

No.	Consulted person	Issue	AEMO response
79.	Origin Energy	The ACCC should consult on the proposed authentication models prior to any consideration or decisions in relation to proposed amendments of MSATS procedures. We do not believe that it is appropriate to consider this issue at this time.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
80.	PLUS ES	No comment	
81.	Red Lumo	AEMO and the ACCC must consult extensively with retailers, consumer representatives and other stakeholders to develop a regulatory framework that achieves its objective while maintaining consumers' privacy and safety. This includes Rules relating to the authorisation of data recipients, the nature of consumer consent and data handling, in addition to safe and secure arrangements for the collection, retention and transfer of consumer data.	AEMO notes the respondent's comment and refers to the response in Table 10, item 1.
82.	TasNetworks	N/A	
83.	United Energy	N/A	
84.	Vector Metering	No comments	

Table 11 Network Tariff Code

No.	Consulted person	Issue	AEMO response
Q27 Given this change commenced on 1 December 2017, to what extent are you seeing issues with the population of the NTC?			
1.	AGL	Broadly, AGL has put in place various processes to manage the application of the appropriate NTC. Nevertheless, AGL is aware of errors which occur as a result of the multiple parties involved in NTC nomination and understanding of which NTC is appropriate, given various network updates to NTCs. AGL is supportive of the proposal and has no objection to the Networks being responsible for the application of the NTC, understanding that AGL can always negotiate with the Network if AGL believes a more appropriate NTC should be used, as is done now.	AEMO notes the respondent's support for the proposed change. Given the mixed response to Q27 to Q29, AEMO proposes to remove the Network Tariff Code discussion from this consultation to enable further analysis on the topic. AEMO notes, without the additional analysis, the result could mean continuation of inadequate procedures with undesirable results. AEMO will include this topic in a future consultation if a changed position is needed.

No.	Consulted person	Issue	AEMO response
		AGL would expect the new process to continue much like it does now, with the Retailer nominating an NTC on the meter forms but the Network nominating the NTC rather than the MC.	
2.	Ausgrid	Ausgrid argued in the POC changes that the LNSP should allocate the NTC and the MP should provide the "meter use" so the LNSP could determine which tariff to allocate, this was not accepted. Ausgrid has built validation in its system to allocate NTC if they are incorrectly populated by the MP. The investment in this system is working correctly and we would not support any change which requires Ausgrid to rebuild its NTC allocation system.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
3.	AusNet Services	AusNet Services has minimal issues with incorrect NTC in Vic. We actively trigger an update to the Network Tariff Code once a CR30xx is completed in the market to ensure the data is correct.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
4.	CitiPower Powercor	We are dealing with approximately 20-40 exceptions each month.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
5.	Endeavour Energy	We have experienced numerous issues where the metering provider did not populate the network tariff codes as per our policy – this incudes applying network tariff codes that are not applicable for the customer, changing the network tariff code retrospectively, applying a controlled load network tariff code for registers that are not for a controlled load or for the wrong controlled load regime, and applying a mixture of different network tariff codes that are not allowed. This caused manual work to determine the root cause and rectify the issue, it also delayed the billing of these NMIs which impacted on cash flow and required us to consult with impacted retailers to explain the problem and the required resolution when matters got escalated. This manual work has increased by 20% since 1 December 2017 and is expected to continue increasing given that interval meters is only installed at 20% of sites within Endeavour Energy's network area.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
6.	EnergyAustralia	Since 1 December 2017, the retailer has updated the right NTC in the S/O, the MCs then updates the proposed NTC in MSATS. Once a NTC is published it is provided to the front of house team to pick the appropriate one. If the retailer has chosen an incorrect tariff, LNSPs will revert that back to the correct NTC.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

No.	Consulted person	Issue	AEMO response
		The main issue with this process is that a retailer assigning a NTC, are doing so with a lesser understanding of which NTC would be optimal for the customer, the position in the network, and the load impacts.	
7.	Energex and Ergon Energy Network and Metering Dynamics	We largely experience the lack of valid NTC or incorrect NTCs. For example, when using 'Not Applicable', providing the incorrect Load Control Tariff, or nominating random tariffs without any confirmation when performing metering updates in the Market creates additional work for the Retailer and LNSP to rectify incorrect tariffs. Further, using invalid or incorrect NTCs on MSW requests requires either follow up with the requesting FRMP or utilising a default NTC as advertised by the LNSP or determined from the MSATS NTC table. Finally, we have also experienced issues relating to application of grandfathered NTC's and application of NTC for metering alterations where the FRMP has supplied a NTC per initial requests and the LNSP has since updated the NTC, leading to multiple NTC changes / corrections.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
8.	EvoEnergy	1. MPB's are failing to follow the direction of the retailers meter install request e.g. by submitting the obsolete energy tariff for all data streams. 2. The Meter install request detailed the new NTC to be a legislated feed-in-tariff (FiT) code, or Net Generation, but the MPB loaded to MSATS a B stream with a standard energy NTC, resulting in customer complaints and manual rectification along with loss of revenue for the customer. 3. When adding the meter to MSATS, fail to also add all the registers and suffix's, e.g. only add the E stream (even though B stream configured in meter for the new PV generation) in that first transaction. Result in customer complaints and manual rectification to now add, or in some cases, loss of revenue for the customer, or retailer and network as not rectified within MSATS allowable timeframes.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
9.	Intellihub	No issues other than the LNSPs questioning the MPB when they should be approaching the FRMP as per the procedures.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
10.	Origin Energy	N/A	
11.	PLUS ES	Since the commencement issues experienced:	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

No.	Consulted person	Issue	AEMO response
		• MPB receive late notice of tariff changes which places undue pressure on the MPB to update their systems accordingly. • Sometime PLUS ES finds out indirectly from other retailers there are tariff changes. • The above are experienced annually (mid-year) when tariff changes are made.	
12.	Powermetric	As MPB's do not have a direct relationship with NTC's and therefore not best placed to update them. This has caused numerous instances where incorrect NTC's have been used by the MPB.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
13.	Red Lumo	Red and Lumo believe the accurate population of NTC is a major issue which needs to be addressed. It is not only a question of volume of incorrectly updated NTCs, but also the work which needs to be undertaken after the NTC has been rectified. This will impact on not only the retailer who needs to rectify the information in their billing systems, but also has a direct impact on the customers themselves. All further compounded if the issue is not picked and fixed in a timely manner.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
14.	SA Power Networks	SA Power Networks continue to see issues with the population of the NTC due to involvement of parties outside of the LNSP – these occur on a regular basis.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
15.	TasNetworks	TasNetworks frequently sees issues with incorrect NTC's being populated by the MPB. More than one MPB has indicated that their systems ingnore inbound 3100/3101 CATS notifications and therefore any following 3051 notification is sent with out of date NTC's. TasNetworks has also observed a high number of NTC's being incorrectly allocated to new installations, which require rememdial attention by TasNetworks at additional cost to the retailers and potentially the customers.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
16.	United Energy	We are dealing with approximately 20-40 exceptions each month.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
17.	Vector Metering	We are not aware of any material issues related to NTC population.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
Q28 If AEMO was to review the obligations on NTC, out of the options proposed, which do you see being the most effective to address the current issues experienced. Please provide reasons as to why you think the options you've chosen would address the issue.			

No.	Consulted person	Issue	AEMO response
a) Compliance options for MPB performance for incorrectly populating NTC b) Retailer obligations to inform the MC and MPB of the appropriate NTC c) Network obligations to correct an incorrectly populated NTC within three business days; and or d) If networks are provided the obligation to populate NTC then they will have only three business days to correctly populate this after the metering installation details are provided by the MPB, this will ensure there are not additional delays to the commissioning of the meter in MSATS			
18.	AGL	AGL considers Option D to be the most efficient outcome, with Option C as a fallback option for Option D. Options C and D both have a 3-day SLA, which is good. However, Option C is more exception based, which is less than ideal. Tariff selection can be complex in some situations and implementing a compliance process can be quite onerous. AGL suggest that it is far better for the industry to put its energy into resolving the issue than record that there is an error. AGL does not support either Option A or B. Networks and Retailers have existing processes to address issues which may arise between themselves.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
19.	Ausgrid	As Ausgrid has built validation in its system to allocate NTC if they are incorrectly populated by the MP. The situations described would be validated and updated by Ausgrid NTC allocation system. Ausgrid would not support any change which requires Ausgrid to rebuild its NTC allocation system.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
20.	AusNet Services	Option c). Under current obligations, the DNSP should be ensuring the NTC is correctly applied once a metering installation has been completed. The DNSP must abide by the AER's approved tariffs determinations in doing so.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
21.	CitiPower Powercor	CitiPower Powercor is supportive of option D, but the obligation would only be applicable from when the MPB has updated MSATS and not just sent NOMW. At a minimum, the LNSP should have 5 business days to update the NTC after the MPB has updated MSATS.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
22.	Endeavour Energy	Option 1 continues with the data structure where network billing information is combined with metering information in one record. This option provides a small	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

No.	Consulted person	Issue	AEMO response
		improvement over the current approach by assigning the network tariff code responsibility solely to the Network. However, only the metering provider can create and change the metering record and therefore still creates a dependency and maintenance obligation on the Network when the metering record is updated. On the other hand, option 2 changes the data structure so that network billing information is no longer combined with metering information and can be linked if required (for example, if the premises only has one network tariff assigned to it then linkage is not required because the network tariff would apply to the metering data for all the meter registers). With the current and future market only allowing metering providers to install interval meters, having MSATS structured to separate network billing information from metering information will support market structures and roles whereby network services and metering services are now provided by two separate organisations. We believe that option 2 is the most effective option, noting the explanation we have provided below on how this option can be used for multiple tariffs. This option would address all the issues AEMO is enquiring about because there would be no dependency on the metering provider in order to populate the network tariff.	
23.	EnergyAustralia	EnergyAustralia's preference is b), as we believe retailers are best placed to manage the customer relationship. However, we admit there are improvements that can be achieved in the current process. Namely confirmation from LNSPs on the appropriate NTC. We do not see enough issues in this space to justify changing the current process, outside of improving communication between retailers and LNSPs.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
24.	Energex and Ergon Energy Network and Metering Dynamics	We support the current process which places cascading obligations for the NTC on all parties. Initially the Retailer and MPB should advertise the NTC correctly to the Market. LNSPs would then validate the NTC and make changes accordingly if required. However, we suggest that 5 business days is a more appropriate timeframe to correct the NTC. Should AEMO choose to further review the obligations on the NTC we suggest that additional consultation would be prudent.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
25.	EvoEnergy	Option a) would not address some of the issues as mentioned above in Q27. Option b) is in place now, but in some cases, the retailer also gets it wrong.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

No.	Consulted person	Issue	AEMO response
		Option c) is BAU. Option d) is preferred, with caveats. LNSP must be able to update the NTC with site status A, D, N, or G to meet the 3 business days. This would be much more flexible and improve processing and automation. Alternatively, the NTC should be updated within 3 business days of the site status being changed to A. Make the field Required for the MPB. 1. Whatever they were passed from the retailer they must populate, as this would put the responsibility on multiple parties. 2. If blank, three business days (with above caveats) for the networks to populate after receipt of the CR300x. 3. No ability for the MPB to update NTC for 1-4 meters via a CR3051. 4. Improved reporting on MPB. Current reports by AEMO track NMI status and when updated timeframes. Is there a similar report for MPB (or MDP data streams) that monitors if a meter was added to MSATS within defined timeframes? Maybe the new Type 5 & 6 report to identify why new meter's installed or changed could be expanded.	
26.	Intellihub	MPB's are not responsible for Network Tariffs hence the name and there should be no obligation placed on an MPB in relation to these. The MSATS Procedures make it clear, the LNSPs and FRMPs need to sort it out in relation to Network Tariffs. The FRMPs are to provide the MPB with the correct NTC and the LNSPs need to update them if needed. The obligations should sit with FRMP and LNSP as it does today. Option 2 should be adopted which would be to de couple the network tariff as part of the metering information and place it at the NMI level. If this is not possible then allow metering updates to happen but make the network tariff field Optional so the MPB does not have to populate this and their metering CR will not reject, then placing the obligation on the LNSP to update the tariff as per point d).	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
27.	Origin Energy	Origin's Energy preference is Option D. The NTC is set by the LNSP not the MP. In addition, a change to the NTC is subject to approval by the LNSP. The MP should have	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

No.	Consulted person	Issue	AEMO response
		the option however to update the tariff post meter install, correct an NTC if populated incorrectly or if the tariff is not updated in a timely manner.	
28.	PLUS ES	PLUS ES prefers option c) which is current practice. Alternatively, an MP uses the NTC for a utilisation of the meter ad then the LNSP determines and applies the correct NTC.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
29.	Powermetric	Option D. This allows for the MPB to inform the LNSP of the metering configuration which then allows the LNSP to correctly select and update the NTC.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
30.	Red Lumo	Red and Lumo support options a), c) and d). Whilst we agree that the LNSP could be made responsible for this field, we also believe that the MPB should have a responsibility of updating the NTC whenever they make changes to the meter register. Therefore reinforcing the MPB's responsibility through compliance options, and assigning timing obligations on Networks to ensure the NTC field is correctly populated or fixed, will ensure that the NTC field is correctly populated and in a timely manner. We do not support having an obligation on the retailer to advise the MPB or MC of the appropriate NTC, as the retailer is not the owner of this field.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
31.	SA Power Networks	SA Power Networks would support a solution that enables the current NTC within MSATS to remain in place and prevents the MP from making changes at the time of completing metering updates within MSATS. In a number of cases, a change in metering will not trigger a change to the current NTC. When process the metering updates within internal system the LNSP can determine whether the tariff needs updating and process the required change at this time. Arrival of all required information/transactions (B2B Notice of Meter Works and MSATS CR) from the MP is required to complete the updates within the LNSP's systems and therefore, timeframes to make any changes to the NTC should not be placed on the LNSP given the dependency on information that is outside the LNSP's control.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
32.	TasNetworks	TasNetworks' strong preference is option D. As incorrect NTC's have billing implications and resourcing impacts on the LNSP, it makes sense for the LNSP to control the population of these codes on newly installed meters/registers.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

No.	Consulted person	Issue	AEMO response
33.	United Energy	United Energy is supportive of option D, but the obligation would only be applicable from when the MPB has updated MSATS and not just sent NOMW. At a minimum, the LNSP should have 5 business days to update the NTC after the MPB has updated MSATS.	AEMO notes the respondent's comment and refers to the response in Table 11, Item 5.
34.	Vector Metering	We are not aware of any material issues related to the NTC population. MPB's are provided this code by the retailer who presumably have agreed this with the customer. While MPB's can perform some course validation to ensure that the NTC is relevant i.e. it is a load control tariff for a load control register it is difficult to do much more than that. Given that assignment of the Network tariff is between the customer, the retailer and the DNSP and is related to billing it makes little sense that it is the MPB that has the responsibility to populate NTC into MSATS and is held accountable if it is incorrect. Therefore, we support moving the population of NTC to the DNSP. Rather than specifying an NTC against each register the MPB should be describing what each register is connected to e.g. General Power and Light, Load control, local generation etc. Based on this information the DNSP's can then assign the correct tariff at a register level.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
Q29 Do you have any comments on the options provided by Endeavour Energy?			
35.	AGL	We agree with the comments provided by Endeavour that the NTC field should be the responsibility of the LNSP and we support their proposed option. However, Option 1 seems to be a practical approach and is aligned with Option D in the previous question.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
36.	Ausgrid	(See above) As Ausgrid has built validation in its system to allocate NTC if they are incorrectly populated by the MP. The situations described would be validated and updated by Ausgrid NTC allocation system. Ausgrid would not support any change which requires Ausgrid to rebuild its NTC allocation system.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
37.	AusNet Services	Option 1.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

<table>
<tr><th>No.</th><th>Consulted person</th><th>Issue</th><th>AEMO response</th></tr>
<tr><td></td><td></td><td>In general, we agree that the LNSP should control the assignment of the NTC. This can be achieved by coordination with the MPB and through the establishment of default tariff structures not dependant on metering configurations. This is our current practice.
Changing the current process would need to be justified with a cost/benefit assessment.
Since the NTC is assigned per register, the LNSP requires the meter installation to be established before setting the appropriate NTC.
Therefore, out of the two options Endeavour Energy presented, option one would be the most viable. However, AusNet Services still prefers the current process remaining unchanged.</td><td></td></tr>
<tr><td>38.</td><td>CitiPower Powercor</td><td>CitiPower Powercor supports option 1 proposed by Endeavour Energy.</td><td>AEMO notes the respondent's comment and refers to the response in Table 11, item 1.</td></tr>
<tr><td>39.</td><td>Endeavour Energy</td><td>We believe that option 2 could support separate network tariffs for each meter register if multiple records for the 'Network Service' and 'Network Tariff Code' is allowed (from a data structure point of view this can be achieved if these fields are designed in a similar manner as the NMI Participant Relations information).
For example, if a premises had general supply and off peak services then the Network can setup MSATS as follow:
<table><tr><th>NMI</th><th>Network Service</th><th>Network Tariff Code</th></tr><tr><td>4319876543</td><td>ALLDAY</td><td>NTC02</td></tr><tr><td>4319876543</td><td>CONTROLLED</td><td>NTC06</td></tr></table>While the metering provider can setup the meter as they normally do as follow:
<table><tr><th>NMI</th><th>Meter</th><th>Register</th><th>Time of Day</th></tr><tr><td>4319876543</td><td>Meter123</td><td>E1</td><td>ALLDAY</td></tr><tr><td>4319876543</td><td>Meter456</td><td>E4</td><td>CONTROLLED</td></tr></table>The network tariff can then be mapped via the 'Network Service' and 'Time of Day' fields. In the above example we can see that metering data for E1 would have the</td><td>AEMO notes the respondent's comment and refers to the response in Table 11, item 1.</td></tr>
</table>

No.	Consulted person	Issue	AEMO response
		network tariff code NTC02 applied to it while metering data for E4 would have the network tariff code NTC06 applied to it.	
40.	Energex and Ergon Energy Network and Metering Dynamics	We do not believe that Option 2 is practicable as it is common to have multiple NTCs applicable at a metering installation (e.g. principle, controlled load and generation tariffs). As such, we believe the NTC should stay on the meter level and not at the NMI level. This would enable clarification of multiple NTCs on multiple meters attached to a NMI. We suggest AEMO consider the impact any further changes will have on network expenditure under approved regulatory determinations.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
41.	EvoEnergy	Do not like option 2 as this would restrict flexibility in retailers or networks ability to offer new innovative tariff structures. Option 1 was in place for many years, with NTC Optional for the MPB. Preferred if option d) above adopted.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
42.	Intellihub	No	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
43.	Origin Energy	There are many instances where there is more than one NTC for all meters on an installation. Especially where there is Controlled Load. This would be a serious limitation to Option 2.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
44.	PLUS ES	PLUS ES comments on the 2 options: -Option 1 - We are unsure whether the register information alone provides enough detail of the metering installation configuration to enable the network to determine accurately the NTC. -Option 2 – the proposal looks very similar to a utilisation code.	AEMO notes the respondent's comment and refers to the response in Table 11, Item 5.
45.	Powermetric	We strongly support Endeavour Energy proposal to allow MPB to enter the meter register record without an NTC.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
46.	Red Lumo	Option 1: If the MPB makes changes to the meter register record, which would then require the NTC to be changed, how will the MPB advise the LNSP of the required to be updated to? We believe there should be an obligation on the MPB to update the NTC in the event of works they have undertaken themselves, such as metering change.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

No.	Consulted person	Issue	AEMO response
		We do not support option 2. As pointed out by AEMO, the level where the NTC should be captured is at the meter level and not NMI to account for when there may be multiple NTC's.	
47.	SA Power Networks	SA Power Networks continue to see issues with the population of the NTC due to involvement of parties outside of the LNSP – these occur on a regular basis.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
48.	TasNetworks	TasNetworks also like to support the suggestion mentioned in Endeavour Energy's option 2 around the existing NTC being carried forward if the existing meter/register is modified.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
49.	United Energy	United Energy supports option 1 proposed by Endeavour Energy.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.
50.	Vector Metering	Both solutions are workable.	AEMO notes the respondent's comment and refers to the response in Table 11, item 1.

Table 12 Meter Exemption Process

No.	Consulted person	Issue	AEMO response
Q30 Meter Exemption Process			
1.	AGL	Expanding on AGLs response within the first round of submissions, AGL believes that a short enumerated categorisation of meter faults could be developed between AEMO and the MCs and would make the process of managing exemptions more efficient for participants. These categorisations might look something like: • Meter Failure • Family Failure • CT Fault • HV VT/CT Fault • Damaged Display • Comms Failure • No Communications Available	AEMO notes the respondent's comment. As part of our review of the process AEMO will include the option of a category. This is subject to AEMO automating the process.

No.	Consulted person	Issue	AEMO response
		• Asbestos • Customer Defect • Customer Reschedule • Other (not categorised) • Etc AGL suggests that a combination of meter type and categorisation will allow participants to build the processes into workflows and to focus on those faults which have a high impact. Asbestos • Unable to Isolate • Equipment not found • Customer defect - level 2 Defect • Retailer Cancellation - Not Same day • Unsupported B2B Service Order • Unable to clarify existing meter number/s • Unable to perform customer consultation or arrange appt. • Customer requested reschedule • No room on switchboard • Customer contact details incorrect • Field technician missed scheduled work order • Unable to locate Site (NMI) • Incorrect Retailer determined on site • Customer defect - Level 1 Defect • Incorrect Retailer (detected via Scheduling) • Field Tech not qualified and Re-attemptable.	

Table 13 Proposed Changes in MSATS Procedures - WIGS

No.	Consulted person	Section No / Field Name	Issue	AEMO response
1.	AusNet Services	4.1.4 / 4.3.4 / 7.1.4 GNAF PID	This field should not be mandatory for a LNSP to populate for existing NMIs, the procedure should clearly state that AEMO will be responsible for populating GNAF PID based upon a given structured address (as provided by the LNSP)	AEMO has set the GNAF PID field to REQUIRED in the Standing Data for MSATS Document and not MANDATORY, and also indicated that the Party to Provide the field is AEMO or the LNSP, if applicable and if they have this information similar to the DPID field, hence this field is not considered to be MANDATORY for the LNSP to provide.
2.	AusNet Services	4.1.4 / 4.3.4 / 7.1.4 Section Number	We recommend the procedure should clearly state that field is only required for NSW	AEMO has set the Section Number field to "REQUIRED for NSW and ACT, OPTIONAL in all other jurisdictions" in the Standing Data for MSATS Document which is sufficient and consistent with the requirement of the other fields and how it appears in the Standing Data for MSATS Document.
3.	AusNet Services	4.1.4 / 4.3.4 / 7.1.4 DP Number	We recommend the procedure should clearly state that field is only required for NSW	AEMO has set the DP Number field to "REQUIRED for NSW and ACT, OPTIONAL in all other jurisdictions" in the Standing Data for MSATS Document which is sufficient and consistent with the requirement of the other fields and how it appears in the Standing Data for MSATS Document.
4.	AusNet Services	House No To	We consider it is unreasonable to expect LSNPs to HouseNumTo for existing sites. Will AEMO perform the splitting of the HouseNumTo fields or data cleansing required in MSATS?	AEMO currently does not have the HouseNumTo information, however some of it may appear in the Unstructured Address fields which will be cleansed and handled through the data transition. AEMO is happy to populate this information if participants provide it.

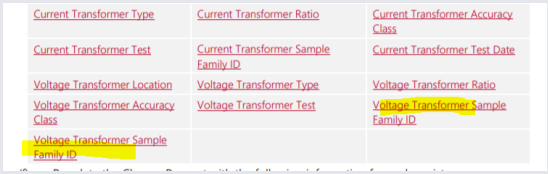
No.	Consulted person	Section No / Field Name	Issue	AEMO response
5.	Energex, Ergon Energy, Metering Dynamics		We have no further comments on this matter. Separate feedback has been provided in the Standing Data for MSATS documents regarding suitable fields to be utilised moving forward.	AEMO notes the respondent's comment.
6.	AGL		N/A - Procedures will be reviewed in the next round	AEMO notes the respondent's comment.
7.	Ausgrid	General	Provision of the majority of this information should not be required to be published in MSATS on NMIs with a NMI Classification Codes (BULK, XBOUNDRY and INTERCON). If these changes are applied before 5MS goes live, NMIs with a NMI Classification of WHOLESAL and INTERCON should not be required to publish this information to MSATS.	AEMO still need to provide this information in WIGS Procedure as it applies to some classifications, hence for completeness and correctness of the MSATS Standing Data the information still need to exist in the MSATS WIGS Procedure. In the Standing Data for MSATS Document we clarified which classifications are excluded and those fields that only applies to some classifications are listed as REQUIRED and not MANDATORY.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
8.	Endeavour Energy	4.1.4.c 4.2.4.c 4.3.4.c 7.1.4.c 7.1.5.b 7.2.3.d 7.3.4.d	The information required for the Connection Configuration field would be unknown at the time when a NMI is created therefore this field cannot be 'mandatory'. Therefore, we suggest that Connection Configuration be removed from the table in clause 4.1.4.c, 4.2.4.c, 4.3.4.c, 7.1.4.c, 7.1.5.b, 7.2.3.d and 7.3.4.d Also, all the information required for the Connection Configuration field is not known to the Network – for example, when a new a new metering installation is installed at an existing connection point for a granny flat and when a new metering installation is installed at an existing connection point for commercial premises that has refurbished/re-configured the premises. However, the Connection Configuration information would always be known to the MP because they are responsible for the metering installation. We believe that the obligation for populating this information should be with the party that has the information; therefore we suggest a new CR Code be created to allow a MP to maintain the Connection Configuration.	AEMO believes that LNSPs should be able to provide the connection configuration information given that they are responsible for the connections and they have built the network. LNSPs should be able to provide the information required in the first two characters of the connection configuration field which identifies the connection type (High or Low Voltage) and the number of phases in use, however the information required in the third and the forth characters which identifies the presence of CT and VT may not always be available for the LNSPs and hence AEMO proposes to remove the third and the last characters from the connection configuration field description and limit it to only the connection type and phases in use, AEMO believe that the newly added fields for CT and VT transformer information should be sufficient to identify the presence of CT or VT.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
9.	Evoenergy	4.1.4, 4.2.4, 4.3.4, 7.1.4, 7.1.5, 7.2.3, 7.3.4, 9.1.4	What is the "House Number To"? Could not find it in any of the consultation draft reports or any description on why it was getting introduced. Using the example for Standing Data for MSATS Guideline, if a participant does a NMI Discovery for 8 Smith St, will they get this NMI back as a result?	In the initial stage of consultation, CitiPower PowerCor and United Energy highlighted the following issue: There are currently limitations on the house number field: a. No more than 5 characters b. Does not allow for characters such as – (e.g. 15-18 XXX Rd) These limitations force CitiPower Powercor to update the address as unstructured, we recommend that AEMO amend these limitations. As a result of the above issue, AEMO proposed a HouseNumberTo field to capture the From To house number scenarios. The House Number To field will be a numeric reference of a house or property for scenarios where the address is similar to 4-10 Smith St.
10.	PLUS ES	General	Field/Value comments proposed by PLUS ES and accepted in the Section 2 of this document, should be reflected in the WIGS Procedures, where applicable.	AEMO to consider the proposals made by PLUS ES where applicable in the Procedure.
11.	PLUS ES	General across multiple CRs – GPS coordinates	PLUS ES queries whether GPS Cordinates in the applicable CR tables be updated to reflect GPS CoordinatesLong and GPSCoordinatesLat, as per the Standing Data for MSATS document.	AEMO agrees with the respondent's comment and will update the WIGS procedure accordingly to include the two fields of GPS CoordinatesLat and GPS CoordinatesLong.
12.	Intellihub	N/A	N/A	

Table 14 Proposed Changes in MSATS Procedures - CATS

No.	Consulted person	Section No / Field Name	Issue	AEMO response
1.	AusNet Services	9.1.4 / 9.3.4 / 12.2.4 GNAF PID	This field should not be mandatory for a LNSP to populate for existing NMIs, the procedure should clearly state that AEMO will be responsible for populating GNAF PID based upon a given structured address (as provided by the LNSP)	AEMO notes the respondent's comment and refers to the response in Table 13, item 1.
2.	AusNet Services	9.1.4 / 9.3.4 / 12.2.4 Section Number	We recommend the procedure should clearly state that field is only required for NSW	AEMO notes the respondent's comment and refers to the response in Table 13, item 2.
3.	AusNet Services	9.1.4 / 9.3.4 / 12.2.4 DP Number	We recommend the procedure should clearly state that field is only required for NSW	AEMO notes the respondent's comment and refers to the response in Table 13, item 3.
4.	AusNet Services	House Num To	We consider it is unreasonable to expect LSNPs to HouseNumTo for existing sites. Will AEMO perform the splitting of the HouseNumTo fields or data cleansing required in MSATS?	AEMO notes the respondent's comment and refers to the response in Table 13, item 4.
5.	Vector Metering	9.1.4. LNSP Requirements The New LNSP must:	Making Connection Configuration mandatory will be problematic because the meter installation has not been established at this point NMI is created in the market and therefore the connection configuration is not known. Recommend this is made optional for 'G'reen field NMI's. Also, some consideration is required on how the LNSP will receive the information to populate MSATS and who will provide this. Will it be the retailer via connection paperwork, or will it be the MP after the installation of a meter via the NOMW B2B transaction? Or the ASP in NSW?	AEMO notes the respondent's comment and refers to the response in Table 13, item 8.
6.	Vector Metering	9.3.4.(e) Populate the Change Request with the following information for each meter: Current Transformer Sample Family ID & Voltage Transformer	Vector questions the usefulness of maintaining a sample family id in MSATS for CT and VT transformers. MC's are permitted to move devices between sample families. This could occur because certain devices within a family are exhibiting higher failure rates that others (could be due to geographical reasons). MC would then re-cast their families in order to drill down on specific conditions suspected of causing the failure. Keeping MSATS in line with internal sample family inventories will be cumbersome and expensive (note: most organisations sample testing programs are not connected to the market systems). It is also not clear how a participant external to the	AEMO agrees with the respondent's comment and will be removing the CT/VT Sample Family ID fields as the transformers are identified by the type of test performed, 100% sample test or part of sample, and VTs are not sample tested.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
		Sample Family ID	MC would make use of this information. Unless there is a demonstrable benefit for having this information in MSATS Vector recommends it be removed.	
7.	Vector Metering	9.3.4.(e) Populate the Change Request with the following information for each meter:	Editorial: Table has items in multiple times; 	AEMO notes the respondent's comment and refers to the response in Table 14, item 6.
8.	Vector Metering	Table 16-C – NMI Standing Data Items and NMI Discovery Data Access Rules Shared Fuse Point Flag	The definition of the field needs to clear. This is because a meter may have its own isolation device but could still be part of a shared fuse arrangement. Recommend the definition read: 'A flag to indicate whether the metering installation ~~has a shared fuse~~ can be isolated independently without affecting any other Metering Installations. Valid values are I (can be isolated independently), S (shared fuse) or U, e.g. "S" indicates that the meter can only be isolated via a shared fuse.	AEMO agrees with the respondent's comment and suggest the following description for the Shared Isolation Point Flag field: A flag (Yes, No, Isolated or Unknown) to indicate the Shared Fuse Arrangement for the metering installation. Valid values are Y, N, I or U, as the following: "Y" indicates that a shared fuse is present. "N" indicates that no shared fuse is present. "I" indicates the metering installation is Isolated independently but still part of a shared fuse arrangement. "U" indicates that the presence of a shared fuse is Unknown.
9.	Energex, Ergon Energy, Metering Dynamics		We have no further comments on this matter. Separate feedback has been provided in the Standing Data for MSATS documents regarding suitable fields to be utilised moving forward.	AEMO notes the respondent's comment.
10.	AGL		N/A - Procedures will be reviewed in the next round	AEMO notes the respondent's comment.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
11.	Ausgrid	Section 4.9	Ausgrid notes that Section and DP numbers will be required and not mandatory. Ausgrid agrees with this proposal as we do not use all of this information for NMI allocation and address setup.	AEMO notes the respondent's comment and confirms that it proposes for the Section and DP Number fields to be REQUIRED as per the Standing Data for MSATS Document.
12.	Ausgrid	Section 5.1.3	Solar/PV should be removed from meter use field.	AEMO agrees with the respondent's comment to remove SOLAR/PV from the enumerated list of values for the Meter Use field as REVENUE should be a better suited option to indicate if the Meter Use is for Solar/PV.
13.	Ausgrid	Section 5.2	Business should be removed from the Time of day values.	AEMO does not agree to remove BUSINESS from the Time of Day enumerated list of values as some respondents indicated they use BUSINESS to identify a period of day for their commercial rates. Hence AEMO proposes to retain BUSINESS as a possible value in the enumerated list for the Time of Day field.
14.	Ausgrid	Section 5.4	Ausgrid would like to query why the NSRD should be published for Type 7 NMIs as this is calculated data and not scheduled to be read.	AEMO agrees to update the requirement details for the NSRD in the Standing Data for MSATS Document to mention the following: "MANDATORY for manually read meters, REQUIRED for Type 7 metering installations with calculated metering data where the forward estimate process is using the BLOCK, and NOT USED for remotely read meters.
15.	Endeavour Energy	2.9	For completeness, this section should be updated to reflect AEMO's obligations to populate the Meter Malfunction Exemption Number, Meter Malfunction Exemption Expiry Date and the GNAF PID fields.	AEMO agrees with the respondent's comment to add AEMO obligations for updating DPID and GNAF PID fields, however the obligations related to the Meter Malfunction Exemption fields will be added as part of the exemption automation work and not as part of this consultation.

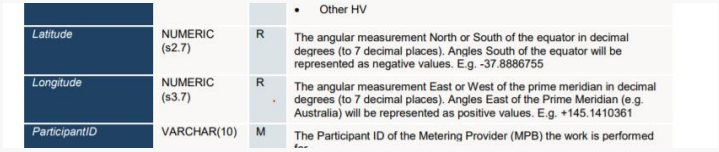
No.	Consulted person	Section No / Field Name	Issue	AEMO response
16.	Endeavour Energy	9.1.4.c 9.2.4.c 9.3.4.c 9.4.4.c 12.2.4.c 12.2.5.b 12.5.4.d	The information required for the Connection Configuration field would be unknown at the time when a NMI is created therefore this field cannot be 'mandatory'. We suggest that Connection Configuration be removed from the table in clause 9.1.4.c, 9.2.4.c, 9.3.4.c, 9.4.4.c, 12.2.4.c, 12.2.5.b and 12.5.4.d Also, all the information required for the Connection Configuration field is not known to the Network – for example, when a new a new metering installation is installed at an existing connection point for a granny flat and when a new metering installation is installed at an existing connection point for commercial premises that has refurbished/re-configured the premises. However, the Connection Configuration information would always be known to the MP because they are responsible for the metering installation. We believe that the obligation for populating this information should be with the party that has the information, therefore we suggest a new CR Code be created to allow a MP to maintain the Connection Configuration.	AEMO notes the respondent's comment and refers to the response in Table 13, item 8.
17.	PLUS ES	General	Field/Value comments made and accepted in the issue paper section should be reflected in the CATS Procedures, where applicable.	AEMO to consider the proposals made by PLUS ES where applicable in the Procedure.
18.	PLUS ES	General across multiple CRs – GPS coordinates	PLUS ES queries whether GPS Cordinates in the applicable CR tables be updated to reflect GPS CoordinatesLong and GPSCoordinatesLat, as per the Standing Data for MSATS document. Also applicable Table 16-C	AEMO agrees with the respondent's comment and will update the CATS procedure accordingly to include the two fields of GPS CoordinatesLat and GPS CoordinatesLong.
19.	PLUS ES	2.7 Retailer of Last Resort	Typo – refer to section 13.6 has been changed to refer to section 0. Section 13.6 is the valid section	AEMO agrees with the respondent's comment and will make the correction to the clean version of the CATS Procedure.
20.	PLUS ES	16.1 Introduction (c)	Hyperlink naming correction Error! Reference source not found: Table 16-C	AEMO agrees with the respondent's comment and will make the correction to the clean version of the CATS Procedure.
21.	PLUS ES	16.3.3 CATS Standing Data Access Rules (b)	Hyperlink naming correction Error! Reference source not found:	AEMO agrees with the respondent's comment and will make the correction to the clean version of the CATS Procedure.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
22.	Intellihub	4.3.2 Proposed validations for transformer information fields	The CT Ratio validations appear to be based on standard LVCT Types (i.e. A,B,C,S,T,U,V,W), but the list does not allow for HV CT's and LV Special CT's. There are a range of other single-tap and multi-tap ratios missing from this list.	AEMO agrees with the respondent's comment and clarifies that the list of CT/VT fields values and validations proposed by AEMO in the earlier stages of consultation were just examples for participants to provide feedback. Participants need to identify what values they want in the enumerated lists and provide that to AEMO, if no other values are provided by participants then the lists proposed by AEMO will be used as the initial list of values for the CT/VT fields.
23.	Intellihub	CT Type	Suggest adding "LV Special" and "HV" to this list (as per previous comment).	AEMO agrees with the respondent's comment, and refers to the response in Table 14, item 22.
24.	Intellihub	VT Type	What are the benefit from this information? I would suggest "Single-Phase" and "Multi-Phase".	AEMO clarifies that the benefit of this information is for the future when other methods of testing are acceptable in the NEM for certain type of VTs, then MC/MP will be able to plan their testing better. The reason AEMO proposed the current breakdown of values and validations is to be able to identify the type of device on site, that way when future testing methodologies are proposed to AEMO, only certain types will be able to be tested that way. Hence it could help the MC to identify the type of testing they can perform on site.
25.	Intellihub	4.3.3 The addition of new transformer fields	"CT Test and VT Test" What is the purpose of these fields? "VT Sample Family ID" Not aware of sample testing of VT's. What is the purpose of this field?	AEMO clarifies that the purpose of the CT/VT Test fields is for an incoming MC to know what they have inherited from a testing perspective. An asset that was part of 100% testing, a sample that was tested, or a sample that was not tested.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
				AEMO agrees with the respondent that VT Sample Family ID should be removed as there is no sample testing of voltage transformers.
26.	Evoenergy	2.7	Reference appears to be incorrect when viewing PDF, as shows "O" and 13.6 removed, but when you select it, then takes you to the correct area.	AEMO agrees with the respondent's comment and will make the correction to the clean version of the CATS Procedure.
27.	Evoenergy	9.1.4, 9.2.4, 9.3.4, 9.4.4, 12.2.4, 12.2.5, 12.3.4, 12.5.4, 15.1.4	What is the "House Number To"? Could not find it in any of the consultation draft reports or any description on use. Using the example for Standing Data for MSATS Guideline, if a participant does a NMI Discovery for 8 Smith St, will they get this NMI back as a result?	AEMO notes the respondent's comment and refers to the response in Table 13, item 9.

Table 15 Proposed Changes in Standing Data for MSATS Guideline

No.	Consulted person	Section No / Field Name	Issue	AEMO response
1.	Vector Metering	Table 3 CATS_METER_REGISTER CurrentTransformerTest VoltageTransformerTest	Type of test performed on metering installation with Current Transformer which can be one of the following: • Tested (definition – part of 100% testing) • Sample Tested (definition – tested as part of a sample plan) • Sample (definition – part of an approved sample plan) As it is permissible to either physically test a transformer or undertake a sample testing approach (subject to the approved test plan) and the rules do not interpret the results of either method any differently i.e. if the family passes or fails then it is that same as the device being physically tested. MC's are required to resolve any malfunction (or accuracy failure) within the mandated timeframes and if they are unable to do so, will apply for an exemption from AEMO which will update the exemption information in MSATS. It is unclear how having the method for determining the accuracy of the transformer in MSATS is of any benefit. It is also unclear what the differences is between Sample Tested and Tested, or Sample Tested and Sample (does this mean it wasn't physically tested?). This should be clarified.	AEMO clarifies the reason for the proposed CT/VT Test fields and its possible values is to help any incoming MC to determine what actions they need to take with a LV CT that is subject to sample testing. For more information refer to the Alternate Testing Guideline for details on what happens with a sample tested LV CT. In summary, the guideline recognised that minimising customer disruptions is a benefit, hence needed a way to identify what has happened to the LV CT from a testing perspective. AEMO notes that VoltageTransformerTest in theory could be removed as there is only one type of test 100%, however as this may change in the future AEMO proposes to keep this field.

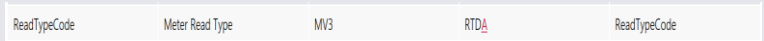
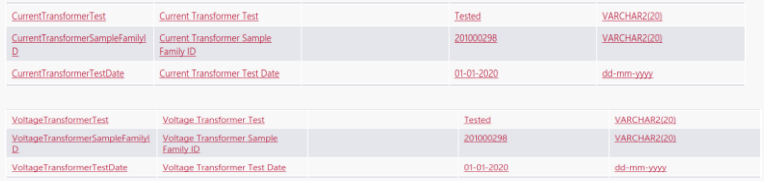
No.	Consulted person	Section No / Field Name	Issue	AEMO response
2.	Vector Metering	Table 3 CATS_METER_REGISTER GPSCoordinatesLat GPSCoordinatesLong	Definition on storing GPS locations should be more explicit as there are several standards for recording Lat and Long. Below is a exert from the B2B OWN procedure. Recommend this description be used. The field also need to support sign.  • Other HV Latitude — NUMERIC (s2.7) — R — The angular measurement North or South of the equator in decimal degrees (to 7 decimal places). Angles South of the equator will be represented as negative values. E.g. -37.8886755 Longitude — NUMERIC (s3.7) — R — The angular measurement East or West of the prime meridian in decimal degrees (to 7 decimal places). Angles East of the Prime Meridian (e.g. Australia) will be represented as positive values. E.g. +145.1410361 ParticipantID — VARCHAR(10) — M — The Participant ID of the Metering Provider (MPB) the work is performed	AEMO agrees with the respondent's comment and will make the changes to the fields' descriptions in the Standing Data for MSATS Document.
3.	Vector Metering	Table 3 CATS_METER_REGISTER ReadTypeCode	o D - Metering installation de-energised, cannot convert to 5-minute Do not support this value. If a meter is not able to be reconfigured to a new interval e.g. 5 min then it will stay at the current interval e.g. 30 min. This should not be used to indicate energisation status. If a meter is deenergised for a period of time MP's still have an obligation under the rules to reconfigure these once they come back on line. Having a 'D' status is redundant.	AEMO clarifies that D is not to define the de-energisation status for the metering installation, instead it is to identify cases where the metering installation cannot convert to 5-min which could be due the metering installation being de-energised, to avoid confusion AEMO will clarify the description of the D character as the following: D – Cannot convert to 5-minute (eg, due to metering installation de-energised)
4.	Powermetric Metering	Section 11 – Reference Tables Table 14	These fields do not appear to cater for numerous HV CT's cases such as 50:5 or any 1-amp secondary CTs. If the fields in Table 43 are free text, then this is not an issue.	AEMO notes the respondent's comment and refers to the response in Table 14, item 22.
5.	Energex, Ergon Energy, Metering Dynamics	Section 4 / Various	We believe the following fields should not be required for NCONUML: • CurrentTransformerLocation • CurrentTransformerType • Manufacturer • Model We suggest the NCONUML is added to the NOT USED list.	AEMO agrees with the respondent's comment to add NCONUML to the NOT USED list of the CurrentTransformerLocation and CurrentTransformerType fields, and to add UNMETERED to the enumerated list of values for Meter Manufacturer and Meter Model fields.
6.	Energex, Ergon Energy,	Section 4 / GPS*	We note that the Standing Data for MSATS document does not agree with 4.6.3 in DRAFT determination report in relation to when the	AEMO notes the respondent's comment and will ensure the report and Standing Data for MSATS

No.	Consulted person	Section No / Field Name	Issue	AEMO response
	Metering Dynamics		information is mandatory. However, we recommend no further updates are required in Standing data for MSATS document.	document align for the Second Draft stage of consultation.
7.	Energex, Ergon Energy, Metering Dynamics	Section 4 / ReadTypeCode	We believe that ReadTypeCode does not cater for Type 7 and NCONUML NMIs when this field is REQUIRED. We suggest that further enumerators are added to the listing to reflect these NMI classification codes appropriately.	AEMO clarifies that the ReadTypeCode field is REQUIRED which means it only needs to be populated if the information is available, hence if the information is not applicable for Type 7 and NCONUML NMIs, then the field does not need to be populated.
8.	Energex, Ergon Energy, Metering Dynamics	Section 4 / Use	We believe that Use does not cater for Type 7 and NCONUML NMIs when this field is REQUIRED. We suggest that further enumerators are added to the lisiting to reflect these NMI classification codes appropriately.	AEMO clarifies that the Meter Use field is REQUIRED which means it only needs to be populated if the information is available, hence if the information is not applicable for Type 7 and NCONUML NMIs, then the field does not need to be populated.
9.	Energex, Ergon Energy, Metering Dynamics	Section 4 / Next Scheduled Read Date	We would like confirmation on whether Next Scheduled Read Date is required to be populated for NCONUML NMIs. Note that we believe that this should not be populated for NCONUML given that actual metering data will be provided to the market each trading day.	AEMO notes the respondent's comment and refers to the response in Table 14, item 14.
10.	Energex, Ergon Energy, Metering Dynamics	Section 4 / Various	We believe that the following fields should not be required for NCONUML: • VoltageTransformerLocation • VoltageTransformerType • VoltageTransformerRatio We suggest that NCONUML is added to the NOT USED list.	AEMO agrees with the respondent's comment to add NCONUML to the NOT USED list of the Voltage Transformer fields.
11.	Energex, Ergon Energy, Metering Dynamics	Section 7 / Shared Isolation Point Flag	We believe that the SharedIsolationPointFlag should not be MANDATORY for NCONUML.	AEMO clarifies that the option of U for Unknown is in the enumerated list of SharedIsolationPointFlag and can be used for NCONUML meters.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
12.	Energex, Ergon Energy, Metering Dynamics	Section 11	We note that the heading on Column 1 of Table 18 Valid Test Result Codes incorrectly shows ControlledLoad.	AEMO agrees with the respondent's comment and will modify the Standing Data for MSATS Document.
13.	AGL		N/A - Procedures will be reviewed in the next round	
14.	Endeavour Energy	Name of document	For clarity, the name of the document shown on the first page should have the word 'guideline'. We suggest the document name be labelled as 'STANDING DATA FOR MSATS GUIDELINE'	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.
15.	Endeavour Energy	Table 3, GPSCoordinatesLat and GPSCoordinatesLong fields	The description for the GPSCoordinatesLat and GPSCoordinatesLong fields do not reflect AEMO's decision in the draft determination which states the following: **4.6.3 AEMO's conclusion** AEMO propose to add the new GPS Coordinates field as follows: • "Required" for Rural sites for a period of 12 months after which the field becomes "Mandatory"; • "Required" for manually read meters 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. We suggest that the description be updated as per the draft determination, noting that our response to question 5 suggest that given GPS coordinates is mandatory for all manually read meters, for all new connections and for all meter exchanges, then there is no need to define rural sites and instead for simplicity, GPS coordinates should be made mandatory for all sites.	AEMO notes the respondent's comment and refers to the responses in Table 15, item 6 and section 4.2 of this Second Draft report.
16.	Endeavour Energy	Table 3, ReadTypeCode field	The information in this field should be known for each meter. Therefore, we suggest this field be made mandatory. If this suggestion is accepted then the CATS and WIGS Procedure should also be updated.	AEMO clarifies that ReadTypeCode field does not apply to all meter types and hence proposes it to be REQUIRED.

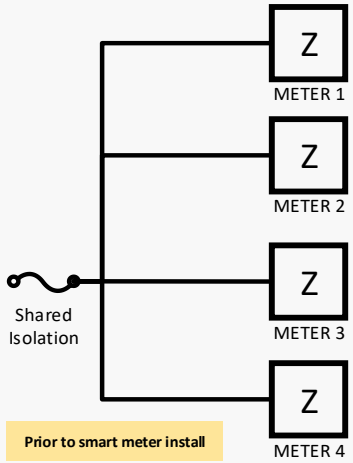
No.	Consulted person	Section No / Field Name	Issue	AEMO response
17.	Endeavour Energy	Table 3, Use field	The information in this field should be known for each meter. Therefore, we suggest this field be made mandatory. If this suggestion is accepted then the CATS and WIGS Procedure should also be updated.	AEMO agrees with the participant comment to make the Meter Use field MANDATORY and, to cater for all possible cases, will add UNMETERED to the enumerated list of values for the Meter Use field.
18.	Endeavour Energy	Table 3, NextScheduledReadDate field	Currently the NSRD is expected for a manually read meter and it is not expected for a type 7 NMI. The draft determination proposes that a NSRD for a type 7 is mandatory. There is little value in having a NSRD for a type 7 NMI given that the metering data is calculated monthly, therefore we suggest that a NSRD is not required for a type 7 NMI. NextScheduledReadDate | Indicates the Scheduled Next Read Date for the *meter* if a manual Meter Reading is required. | MANDATORY for manually read meters and Type 7 metering installations and NOT USED for remotely read meters | MPB initially, then MDP for updates	AEMO notes the respondent's comment and refers to the response in Table 14, item 14.
19.	Endeavour Energy	Table 6, SharedIsolationPointFlag field	The purpose of the Shared Isolation Point Flag is to help reduce wasted site visit for a meter change when it is known that a premises has a shared isolation point. To reduce maintenance costs this field should not be required for NMIs where there is no meter or would require a site visit anyways due to the complexity of the metering installation. We suggest the 'Standing Data Required' column be updated to: Not required for type 7, NCONUML, BULK, XBOUNDRY and INTERCON NMIs. Mandatory for all other NMIs. This should also be reflected in the CATS and WIGS Procedure.	AEMO clarifies that the options of N for No Shared Isolation Point and U for Unknown are available in the enumerated list of values for SharedIsolationPointFlag and can be used for the meter types specified by the respondent, as a result the SharedIsolationPointFlag field can remain MANDATORY.
20.	Endeavour Energy	Table 6, ConnectionConfiguration field	The purpose of the Connection Configuration is to help provide key information to assist with meter changes. To reduce maintenance costs this field should not be required for NMIs where there is no meter. In addition, the information required for the Connection Configuration field would be unknown at the time when a NMI is created therefore this field cannot be 'mandatory', instead it should be 'required'. We suggest the 'Standing Data Required' column be updated to: Not required for type 7 and NCONUML NMIs. Required for all other NMIs Also, all the information required for the Connection Configuration field is not known to the LNSP – for example, when a new a new metering	AEMO notes the respondent's comment and refers to the responses in Table 13, item 8.

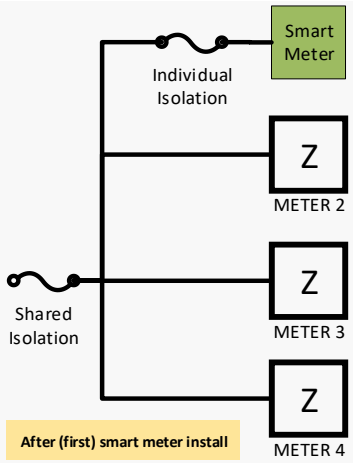
No.	Consulted person	Section No / Field Name	Issue	AEMO response
			installation is installed at an existing connection point for a granny flat and when a new metering installation is installed at an existing connection point for commercial premises that has refurbished/re-configured the premises. However, the Connection Configuration information would always be known to the MPB because they are responsible for the metering installation. Therefore we suggest that the 'Party to Provide' column be updated to the MPB. This should also be reflected in the CATS and WIGS Procedure.	
21.	Endeavour Energy	Table 8, ControlledLoad field	We agree with the suggested enumerated values for this field. However we believe that the description of this field should be changed to represent the meter's configuration for load control. For context, controlled load can be managed via a network device or a meter. If a load is controlled by a network device, then it is unreasonable to expect the MP to know the control load setting of the network device – in this scenario the MP should set the ControlledLoad field to 'No' and the TimeofDay field to 'Controlled', and the Network will communicate the network device setting via the network tariff code. If a load is controlled by a meter then only the MP can configure the control load settings within the meter – in this scenario the MP should set the ControlledLoad field to a value that corresponds to the applicable controlled load setting, eg CL1, CL2 or CL3 and the TimeofDay field to 'Controlled', and the Network can validate the network tariff code that the MP populated (assuming the MP is still responsible for the NTC) or allow the Network to determine and populate the network tariff code (assuming the Network becomes responsible for the NTC). Therefore we suggest that the description of this field be changed to: Indicates whether this register is configured to manage a load under the distributor's approved Controlled Load regime. The ControlledLoad field must be "No" if the register does not manage a Controlled Load. If the register manages a Controlled Load then this field must be populated with a Controlled Load Code, as defined in section 11, that corresponds to the distributor's Controlled Load regime the register is configured to.	AEMO believes the current description for the ControlledLoad field is suitable and does not need to change as the ControlledLoad field is for identifying all types of controlled loads and not just the ones related to the network, it is related to metering information and not to the network.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
22.	Endeavour Energy	Table 8, Suffix field	The description states that "The Suffix value must be unique for each meter". it is not sufficient for the suffix value to be unique for each meter, it must be unique for each NMI. For example, if a NMI has two meters, say meter A and meter B, then meter A cannot have the same suffix as meter B, otherwise at the NMI level there will be two active suffixes with the same value. Therefore we suggest updating the description to "The Suffix value must be unique for ~~each meter~~ the NMI"	AEMO believes that meters must have unique suffixes as per the NMI Procedure.
23.	Endeavour Energy	Table 16, Valid Time of Day Codes	It looks like ALLDAY and INTERVAL are similar except that INTERVAL is clearly for an interval meter only. For simplicity we suggest that INTERVAL be removed and ALLDAY be kept because ALLDAY can be used for all meter types, including unmetered loads.	AEMO does not propose to remove INTERVAL from the Time of Day enumerated list as some participants use this name.
24.	Endeavour Energy	Table 17, Valid Controlled Load Codes	In line with our feedback on the ControlledLoad field, we suggest that the definition of the 'No' Code be changed to 'This register is not configured to manage a load under the distributor's approved Controlled Load regime'. In addition we suggest that the 'No' Code be changed to 'NO', that is all uppercase. This is for consistency with the other codes.	AEMO notes the respondent's comment and refers to the response in Table 15, item 21.
25.	Endeavour Energy	Table 49, CATS_Meter_Register	 The ReadTypeCode for the basic meter example is missing the fourth character, we suggest the value be MV3M	AEMO agrees with the respondent's comment and will make the suggested change to the Standing Data for MSATS Document.
26.	Endeavour Energy	Table 49, CATS_Meter_Register	 For consistency, the Data Element Name for the above field should reflect the name of the element and not the format	AEMO agrees with the respondent's comment and will make the suggested change to the Standing Data for MSATS Document.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
27.	Endeavour Energy	Table 52, CATS_NMI_Data	<table><tr><td>TransmissionNodeIdentifier</td><td>TNI Code</td><td>NRGE</td><td>SBER</td></tr><tr><td>TransmissionNodeIdentifier 2</td><td>TNI Code 2</td><td>NRGE</td><td>SBER</td></tr></table> To avoid confusion, the examples provided should be reflective of what can be expected in reality. We suggest that the TNI2 field for the basic meter example should be left blank, while the TNI2 field for the interval meter should have a different value from the TNI field	AEMO agrees with the respondent's comment and will make the suggested change to the Standing Data for MSATS Document.
28.	Endeavour Energy	Table 52, CATS_NMI_Data	<table><tr><td>HouseNumber</td><td>House Number</td><td>6</td><td>10</td></tr><tr><td>HouseNumberSuffix</td><td>House Number Suffix</td><td>A</td><td>B</td></tr><tr><td>HouseNumberTo</td><td>House Number To</td><td>4</td><td>5</td></tr></table> To avoid confusion, the examples provided should be reflective of what can be expected in reality. We suggest that the HouseNumberTo field have a value that is higher than the HouseNumber field	AEMO agrees with the respondent's comment and will make the suggested change to the Standing Data for MSATS Document.
29.	PLUS ES	General	Field/Value comments made and accepted in the issue paper section should be reflected in the WIGS Procedures, where applicable.	AEMO notes the respondent's comment and will make the changes as applicable.
30.	PLUS ES	Meter Malfunction Exemption Number	PLUS ES supports AEMO's conclusion. In addition PLUS ES recommends, aligning the availability of the field with: • the automation of the process • the updating of the appropriate exemption procedure	AEMO notes the respondent's comment, and will take into consideration at the time of the Exemption automation work.
31.	PLUS ES	Meter Malfunction Exemption Expiry Date	PLUS ES supports AEMO's conclusion. In addition PLUS ES recommends, aligning the availability of the field with: • the automation of the process • the updating of the appropriate exemption procedure	AEMO notes the respondent's comment, and will take into consideration at the time of the Exemption automation work.
32.	PLUS ES	CT/VT Last Test Date.	PLUS ES does not support the proposed additional transformer fields. This is asset management information and we consider it not appropriate for MSATS. There are various nuances in the way that MC's and MP's will record and manage transformers and the associated database modelling. The	AEMO considers the proposal to add those new fields to MSATS would provide high quality which is useful data to the market. More importantly it will ensure retailers are able to provide information to the customer as required,

No.	Consulted person	Section No / Field Name	Issue	AEMO response
			proposals would not be correctly reflected in MSATS. This information belongs with individual MC's and MP's asset management systems and not in a market settlement and transfer solution. Furthermore: • there are MC/MP audits in place to ensure they are complying with their obligations and a last test date could enable the FRMP to discriminate against the customer if a test was imminent due to the prohibitive costs.	and also ensure that MC/MP's are complying with their obligations. AEMO would also like to note that the majority of participant responses supported the addition on those fields in the earlier stages of consultation, as a result AEMO retains its position on the addition of the CT/VT Last Test Date fields.
33.	PLUS ES	CT/VT Accuracy Class	PLUS ES does not support the proposed additional transformer fields. This is asset management information and we consider it not appropriate for MSATS. There are various nuances in the way that MC's and MP's will record and manage transformers and the associated database modelling. The proposals would not be correctly reflected in MSATS. This information belongs with individual MC's and MP's asset management systems and not in a market settlement and transfer solution.	AEMO considers the proposal to add those new fields to MSATS would provide high quality data which is useful data to the market. More importantly it will ensure retailers are able to provide information to the customer as required, and also ensure that MC/MP's are complying with their obligations. AEMO also notes that the majority of participant responses supported the addition on those fields in the earlier stages of consultation, as a result AEMO retains its position on the addition of the CT/VT Accuracy Class fields.
34.	PLUS ES	Proposed Validations for transformer information fields - General	PLUS ES does not support the proposed validations on the basis that maintaining the table, adding new, removing old, to cover valid or invalid combinations – is not addressed. Secondly, PLUS ES believes that this information would impose a burden but not add any value for tasks such as assisting market transfers. The market would get more benefit with a much lower administrative burden by applying a simpler, more abstract detail to manage transformers. PLUS ES proposes that market NMI's be tagged to identify if they are HV, LVCT or WC. This simple information assists FRMP and MC's for market transfers, without the burden of trying to record superfluous information on MSATS	AEMO notes the respondent's comment and refers to the response in Table 14, item 22.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
35.	PLUS ES	Proposed Validations for transformer information fields - CT Type	PLUS ES do not support the validations as it does not necessarily define all of the nuances of CT's at HV or LV sites. i.e. Other would have to be an enumeration for completeness and one would question the value this enumeration would deliver to the Market.	AEMO notes the respondent's comment and refers to the response in Table 14, item 22. AEMO clarifies that the benefit of enumerations is to ensure high data quality and usefulness of information for participants, and that enumerations were supported by the majority of participants during the different stages of the MSDR consultation.
36.	PLUS ES	SharedIsolationPointFlag	PLUS ES recommends that the shared fuse details captured need to be more detailed to deliver full benefits/efficiencies. It is not sufficient to just identify the shared isolation point upstream. One would also need to model at a meter level. The modelling would have to have a similar concept of parent NMI vs child NMIs. For example, 	AEMO clarifies that the SharedIsolationPointFlag field is being proposed as a result of the National Electricity Amendment (Introduction of metering coordinator planned interruptions) Rule 2020 No. 7, hence the field is about the LNSP obligations to record the information and not about the meter isolation. Participants only need to know if there is a shared isolation point so that they can request for the coordination of the planned interruption work on the meters.

No.	Consulted person	Section No / Field Name	Issue	AEMO response
			 If the shared fuse is only identified at the isolation point , then one cannot identify that meter 1 has a Meter Protective device (MPD) and would not require a temporary isolation for any future work. This applies for all meters on the same isolation location.	
37.	PLUS ES	Meter Read Type Code	Proposed as Mandatory in issues paper but required in Standing Data for MSATS doc.	AEMO notes the field should be REQUIRED as it does not apply to all meter types.
38.	PLUS ES	Meter Use	• Solar/PV enumeration: there are other fields which this value could be derived from. For example, a revenue meter which has Solar/PV what would one select? PLUS ES recommends this field to be removed.	AEMO notes the respondent's comment and refers to the response in Table 14, item 12.
39.	PLUS ES	Time of Day	PLUS ES recommends: • an additional enumeration of Demand. This is a currently used – a way of describing a register. • INTERVAL enumeration should be used for all Interval metering.	AEMO agrees with the participant comment to add DEMAND to the list of enumeration for Time of Day, and agrees to clarify that INTERVAL enumeration should be used for all Interval metering installations.

<table>
<tr><th>No.</th><th>Consulted person</th><th>Section No / Field Name</th><th>Issue</th><th>AEMO response</th></tr>
<tr><td></td><td></td><td></td><td>BUSINESS enumeration – Business is a reflection of the customer. A time of day is a reflection of a period. The Network Tariff against the Register / TOD would reflect business. Hence, propose to not include the enumeration.</td><td>AEMO notes the respondent's comment and refers to the response in Table 14, item 13.</td></tr>
<tr><td>40.</td><td>PLUS ES</td><td>Next Scheduled Read Date</td><td>PLUS ES is querying the requirement of a NSRD for Type 7 metering installations, as they are unmetered.</td><td>AEMO notes the respondent's comment and refers to the response in Table 14, item 14.</td></tr>
<tr><td>41.</td><td>Intellihub</td><td>N/A</td><td>N/A</td><td></td></tr>
<tr><td>42.</td><td>Evo energy</td><td>9. Table 8</td><td>TimeOfDay – As per the Guide to MSATS Web Portal Table 6, and following consultation for Five Minute Settlement – Metering Procedure Changes (Package 3) Standing Data for MSATS v5.0, this field should align. All participants are using this value in the CR30xx now, please update this document to align to NEM practice. Please include the following wording to clarify description.
For Interval meters, use code "INTERVAL".</td><td>AEMO agrees with the respondent's comment and will clarify the description of INTERVAL as suggested.</td></tr>
<tr><td>43.</td><td>Evoenergy</td><td>13.3 Table 24</td><td>Example CATS_REGISTER_IDENTIFIER for the TimeOfDay and ControlledLoad are incorrect and do not match allowed values in Table 16 and 17 respectively
<table>
<tr><th>Data Element:</th><th>Serial Number</th><th>RegisterID</th><th>UnitOfMeasure</th><th>Time Of Day</th><th>Suffix</th><th>Controlled Load</th></tr>
<tr><td>Values</td><td>ABCD1111</td><td>01</td><td>KWH</td><td>ALLDAY</td><td>11</td><td>No</td></tr>
<tr><td></td><td>XYZA1112</td><td>01</td><td>KWH</td><td>CONTROLLED</td><td>42</td><td>CL1</td></tr>
</table></td><td>AEMO agrees with the respondent's comment and will modify the Standing Data for MSATS Document.</td></tr>
</table>

<table>
<tr><th>No.</th><th>Consulted person</th><th>Section No / Field Name</th><th>Issue</th><th>AEMO response</th></tr>
<tr><td>44.</td><td>Evoenergy</td><td>13.4 Table 26</td><td>Example CATS_REGISTER_IDENTIFIER for the TimeOfDay and ControlledLoad are incorrect and do not match allowed values in Table 16 and 17 respectively
<table>
<tr><th>Data Element:</th><th>Serial Number</th><th>RegisterID</th><th>UnitOfMeasure</th><th>Time Of Day</th><th>Suffix</th><th>Controlled Load</th></tr>
<tr><td>Values</td><td>ABCD1111</td><td>1</td><td>KWH</td><td>PEAK</td><td>11</td><td>No</td></tr>
<tr><td></td><td>ABCD1111</td><td>2</td><td>KWH</td><td>CONTROLLED</td><td>41</td><td>CL3</td></tr>
</table></td><td>AEMO agrees with the respondent's comment and will modify the Standing Data for MSATS Document.</td></tr>
<tr><td>45.</td><td>Evoenergy</td><td>13.5 Table 28</td><td>Example CATS_REGISTER_IDENTIFIER for the TimeOfDay and ControlledLoad are incorrect and do not match allowed values in Table 16 and 17 respectively
<table>
<tr><th>Data Element:</th><th>Serial Number</th><th>RegisterID</th><th>UnitOfMeasure</th><th>Time Of Day</th><th>Suffix</th><th>Controlled Load</th></tr>
<tr><td>Values</td><td>ABCD1111</td><td>1</td><td>KWH</td><td>PEAK</td><td>11</td><td>No</td></tr>
<tr><td></td><td>ABCD1111</td><td>2</td><td>KWH</td><td>SHOULDER</td><td>21</td><td>No</td></tr>
<tr><td></td><td>ABCD1111</td><td>3</td><td>KWH</td><td>OFFPEAK</td><td>31</td><td>No</td></tr>
</table></td><td>AEMO agrees with the respondent's comment and will modify the Standing Data for MSATS Document.</td></tr>
</table>

No.	Consulted person	Section No / Field Name	Issue	AEMO response
			<table><tr><td></td><td>ABCD1111</td><td>4</td><td>KWH</td><td>CONTROLLED</td><td>41</td><td>CL3</td></tr></table>	
46.	Evoenergy	13.6 Table 30	Example CATS_REGISTER_IDENTIFIER for the TimeOfDay are incorrect and do not match allowed values in Table 16 and 17 respectively <table><tr><td>Data Element:</td><td>Serial Number</td><td>RegisterID</td><td>UnitOf Measure</td><td>Time Of Day</td><td>Suffix</td><td>Controlled Load</td></tr><tr><td>Values</td><td>ABCD1111</td><td>01</td><td>KWH</td><td>PEAK</td><td>11</td><td>No</td></tr><tr><td></td><td>ABCD1111</td><td>02</td><td>KWH</td><td>OFFPEAK</td><td>21</td><td>No</td></tr><tr><td></td><td>XYZA1112</td><td>05</td><td>KWH</td><td>CONTROLLED</td><td>42</td><td>CL2</td></tr></table>	AEMO agrees with the respondent's comment and will modify the Standing Data for MSATS Document.
47.	Evoenergy	14.1 All Tables with TimeOfDay examples	The Value of "ALLDAY" is inconsistent with the Guide to MSATS Web Portal page 59, which specifies the value for Interval meters must be "INTERVAL". All participants are using this value in the CR30xx now, please update this document to align to NEM practice.	AEMO agrees with the respondent that INTERVAL should be used for all interval meters and will update its definitions accordingly, however, as some participants have their systems setup to use ALLDAY to indicate certain periods of the day, AEMO proposes to retain ALLDAY.
48.	Evoenergy	17. Table 54	TimeOfDay interval example should be "INTERVAL" as per Standing Data for MSATS v5.0	AEMO notes the respondent's comment and refers to the response in Table 15, item 47.

Table 16 Other Issues Related to Consultation Subject Matter

No.	Consulted person	Heading	Issue	AEMO response
1.	EnergyAustralia	New field or additional enumeration: Meter Fault Notification Family Failure	Family failure should be included, whether this is an enumerated list highlighting the family failure, or a separate section. The party requesting the exemption will outline whether the meter/NMI is family failure, AEMO then needs to update based on this. AEMO doesn't need to identify 'all family failures' it just needs to update based on the info provided by the MC via the exemption process. If AEMO wanted to update all meters impacted by the family failure, they could request the info from the MC.	AEMO does not support the addition of Meter Family Failure field, as AEMO is not able to identify all Meter Family Failure instances given it only becomes aware of a family failure when an application for exemption to specific installation timeframes is received for a NMI. However AEMO will consider adding a reason for the Meter Malfunction Exemption which may contain Family Failure as an option when doing the exemption automation work.
2.	EnergyAustralia	Meter Fault Notification	AEMO's draft determination advised that the MFN would not be updated once an exemption period passes (without meter fault being resolved), and that an exemption would remain once it has been rectified; AEMO suggesting the exemption will not be removed until the exemption period passes. EnergyAustralia suggests that updating the field to reflect that there is no exemption (when the exemption period passes), or once the site has been rectified, will provide more accurate and useful information to participants.	As per AEMO's proposal in the draft determination stage, AEMO intends to provide the latest data available for the Meter Malfunction Exemption Expiry Date field. This means that the field would either be populated with: • a future date for an active exemption; • a date in the past for an expired exemption where the issue is unresolved; or • no date where a metering installation malfunction has been remedied or rectified (the exemption will finish and then the record will be removed or cleared).
3.	EnergyAustralia	Disconnection Date	EnergyAustralia would like AEMO to consider the addition of a Disconnection Date field, this will provide advice to the retailer as to whether the customer is required to obtain a Certificate of Electrical Safety or other jurisdictional safety requirement. The benefit of this field will save time and improve the customer experience.	AEMO recommends the respondent raise an ICF for this request as it is out of scope for this consultation.

No.	Consulted person	Heading	Issue	AEMO response
4.	Red Energy and Lumo Energy	5.1.3 AEMO's conclusion – Meter Locks	Red and Lumo strongly support this field being included and consider that AEMO should review its decision. It is our view that the benefit of having this field in MSATS, and updated, will derive real customer benefit, and reduce costs and meet the B2B Objective and National Electricity Objective. Being aware at the time of a service order being raised that the meter box has a lock on it which requires access to be provided, will ensure this can be advised to the customer and arranged ahead of time. This will save customers money with fewer wasted truck visits, works will be completed on time and as communicated to customers -- allowing retailers to meet them customer's expectations.	AEMO does not intend to add Meter Locks as the majority of responses received did not support the addition of this new field and no compelling reason was provided to add it.
5.	Origin Energy	Consumer Data Right	Origin Energy request AEMO to wait for the ACCC to make a decision on an authorisation model prior to consulting on changes to the MSATS procedures. In addition, there is concern around the lack of customer verification and the verification process.	AEMO notes the respondent's comment and refers to the response in Table 10, Item 1.
6.	Origin Energy	Solar and Battery Information	Origin Energy maintain that there is value on new fields being created for solar or batteries. This will assist Retailers in understanding what is exactly at site such as panel size and tailor offers to customers specific needs.	AEMO recommends the respondent raise an ICF for this request as it is out of scope for this consultation.
7.	Energex, Ergon Energy, Metering Dynamics	Version Control	We note that the MSATS Procedures: CATS and MSATS Procedures: WIGS documents are very difficult to review when it does not consider the 5-minute Settlement and Global Settlement changes, with issue of XBOUNDARY being discussed in Procedures but NCONUML not present.	AEMO notes that due to the proposed delay in the 5-Minute Settlement and Global Settlement project, the MSDR changes may proceed prior to the 5MS/GS changes, hence the MSATS CATS and WIGS procedures do not include those changes.
8.	AGL		See below	AEMO notes the respondent's comment and has provided responses in Table 17.
9.	Ausgrid	General	Provision of the majority of this information should not be required to be published in MSATS on NMIs with a NMI Classification Codes (BULK, XBOUNDRY and INTERCON). If these changes are applied before 5MS goes live, NMIs with a NMI Classification of WHOLESAL and INTERCON should not be required to publish this information to MSATS.	AEMO notes that fields containing information that is not applicable to all meter types have been made REQUIRED meaning they only need to be provided if they are available.
10.	Endeavour Energy	Procedure vs Guideline	We note that there are obligations defined in the guideline but not in the procedure. We understand that guidelines are non-enforceable and are	AEMO clarifies that the Standing Data for MSATS is not a guideline, it is an MSATS

No.	Consulted person	Heading	Issue	AEMO response
			usually supporting documents to a procedure. We suggest that AEMO move all the obligations from the guideline to the appropriate procedures to ensure that they are enforceable and for consistency with AEMO's Retail Electricity Market Procedures framework. For example, all the codes defined in section 11 of the Standing Data for MSATS Guideline would be more appropriate in section 4 of the CATS Procedure where some of the MSATS standing data codes definition are located. Another example is the definition of each characters in the ReadTypeCode field should also be defined in section 4 of the CATS Procedure.	Supporting Document as per section 4.2 of the Glossary and Framework Document.
11.	Endeavour Energy	Shared Isolation Point ID and NMI Discovery 4	The purpose of the Shared Isolation Point Flag is to help reduce wasted site visit for a meter change when it is known that a premises has a shared isolation point. This information must allow participants to discover the following: a) Whether the isolation point for a metering installation is a shared fuse b) Who is the FRMP for all the impacted metering installation under a shared fuse i. If the retailer is the FRMP for all impacted metering installations then the retailer can arrange for the temporary isolation themselves ii. If the retailer is not the FRMP for all impacted metering installations then the retailer can arrange the temporary isolation with the other retailers We believe that having a Shared Isolation Point Flag field with allowable values of Yes, No and Unknown would only meet requirements (a) above. To meet requirements (b) above, we believe that the following is required: 1. an addition field is required to indicate which NMIs are associated with the same shared isolation point. 2. A new NMI Discovery is required	AEMO notes the respondent's comment and refers to the response in Table 15, item 36.

<table>
<tr><th>No.</th><th>Consulted person</th><th>Heading</th><th>Issue</th><th>AEMO response</th></tr>
<tr><td></td><td></td><td></td><td>For the additional field we suggest a new field called Shared Isolation Point ID be added. Each shared isolation point is to be assigned a unique id by the LNSP and this unique id is to be applied to the Shared Isolation Point ID field of each NMI that is associated with the shared isolation point.
For example, say there were three units that had metering installations under a shared fuse and a meter protection device was installed when an interval meter was installed for unit 1, then the following information will be available:
<table>
<tr><th>NMI</th><th>Address</th><th>SharedIsolationPointID</th><th>SharedIsolationPointFlag</th></tr>
<tr><td>431ABCD123</td><td>Unit 1</td><td>SISPXYZ</td><td>N</td></tr>
<tr><td>431EFGH456</td><td>Unit 2</td><td>SISPXYZ</td><td>Y</td></tr>
<tr><td>432JKLM789</td><td>Unit 3</td><td>SISPXYZ</td><td>Y</td></tr>
</table>
Now, if unit 1 requires another meter change then the above information indicates that the metering installation can be isolated without impacting other metering installations. If unit 2 requires a meter change then the above information indicates that a temporary isolation will impact units 1 and 3. A new NMI Discovery, lets call it NMI Discovery 4, should be developed to allow for the discovery of the FRMP for the NMIs of units 1 and 3.
We wish to highlight that this new NMI Discovery 4 must not be dependent on the SharedIsolationPointID or SharedIsolationPointFlag fields because a shared fuse scenario can be identified by a metering provider before these two fields are populated and therefore the retailer should have the opportunity to use the NMI Discovery 4 straight away, by using meter numbers or addressing information, to identify the FRMPs in order to advance a meter change as quickly as possible.</td><td></td></tr>
<tr><td>12.</td><td>Endeavour Energy</td><td>XML schema</td><td>It is expected that a new aseXML schema is required to support the proposed changes. However it is not clear if this schema change will be a mandatory schema change for every market participant or if this schema</td><td>AEMO notes that it is choice to update their schema. AEMO highlights that many upcoming other projects and rule changes will</td></tr>
</table>

No.	Consulted person	Heading	Issue	AEMO response
			change is optional and a market participant can stay on a n-1 schema version. Could AEMO clarify this? If the schema change is mandatory then we believe that 8 months notice for the effective start date is too short given that market participants cannot choose to de-risk their project by staying on a n-1 schema. We suggest that at minimum of 18 months notice should be provided if the schema change is mandatory.	have schema changes and it is not possible to give 18 months' notice for the various changes.
13.	PLUS ES	Data Transition	• PLUS ES has a concern with the options proposing data transition activities using the CR transactions and whether the bandwidth available to Market Participants will be able to cater for the extraordinary large volumes - in addition to BAU volumes. • PLUS ES recommends that the analysis of the Data Transition options/methods would be best suited in an IT/Solution Architecture focused forum with system knowledge personnel – a discussion among peers. This approach would also deliver a more informative outcome in a streamlined timeframe.	AEMO is planning to run a data transition workshop with participants and it will include business and IT representatives.
14.	Intellihub	N/A	N/A	
15.	SA Power Networks	DPID & G-NAF	SA Power Network support the use of G-NAF over the use of DPID.	AEMO proposes providing both fields.
16.	SA Power Networks	Unstructured Address	SA Power Networks continues to support the removal of unstructured address information, however, as previously stated, flexibility in this area is still required particularly for NMI's linked to unmetered supplies (both Type 7 and Non-Contestable UMS) which in most cases, are not located on a specific parcel of land – which restricts the ability to provide a structured address. There is also some historical data which also will need the unstructured address to remain in place until further work can be completed to identify the correct structured address.	AEMO proposes to remove the Unstructured Address fields from MSATS, thereby obligating all NMIs to have address details contained in the Structured Address fields, following a period of transition for data holders to cleanse their existing address data. AEMO suggests that for type 7 and Non contestable meters, participants can use suburb, state, and postcode fields, and they can use Meter Location if they want to add more details, or use their Inventory table.

No.	Consulted person	Heading	Issue	AEMO response
17.	Evoenergy	MSATS Standing Data Review Draft Report 4.3.2	Adding the "Field 2: Sample Family ID" does not add value to any market participant. Adding "Field 1" is sufficient. Adding "Field 3: Date" may be anti-competitive as it could deter retailers winning/keeping that customer if they know it is going to incur cost if test required.	AEMO agrees with the respondent's comment regarding Field 2 and will be removing the CT/VT Sample Family ID fields as the transformers are identified by the type of test performed, 100% sample test or part of sample, and VTs are not sample tested. AEMO considers that the new fields of CT/VT Test Date (Field 3) would enable the provision of useful information in the market. Specifically, they will enable and guide incoming MCs with the compliance of the metering installation.
18.	Evoenergy	MSATS Standing Data Review Draft Report 5.1.3 Meter Use	Do not see benefit of adding "Solar/PV" as an enumerated value. If you look at the other values, they are stating a specific principle for having this meter, whereas "Solar/PV" is getting more into the detail, and this information is conveyed in various other fields in MSATS. If this stays then must add Wind, Methane, Geothermal, Natural Gas, Coal, Wave/Tidal, Hydro, Nuclear, Fusion, Battery, Diesel/Petrol/LPG/CNG/Oil.	AEMO notes the respondent's comment and refers to the response in Table 14, item 12.

Table 17 AGL Comments on Specific Data Items

No.	Change Type	Information Category	Field Name	AEMO's Conclusion	Draft Comment	AEMO response
1.	To Amend	General Metering Installation Information	Last Test Date	Field definition to be clarified to refer to testing only and the field be made 'Required'. Data quality to be maintained by validating it according to date format.	per AGL initial Submission – Support	AEMO notes the respondent's comment.

No.	Change Type	Information Category	Field Name	AEMO's Conclusion	Draft Comment	AEMO response
2.	To Amend	General Metering Installation Information	Meter Test Result Accuracy	Field to be made 'Required' and renamed from. 'Meter Test Result Accuracy' to 'Meter Test Result'. The field will be enumerated to indicate Pass or Fail.	per AGL initial Submission – Support	AEMO notes the respondent's comment.
3.	To Amend	General Metering Installation Information	Meter Manufacturer	Field to be made 'Mandatory' with an itemised list of regular compulsory updates.	per AGL initial Submission – Support	AEMO notes the respondent's comment.
4.	To Amend	General Metering Installation Information	Meter Model	Field to be made 'Mandatory' with an itemised list of regular compulsory updates.	per AGL initial Submission – Support	AEMO notes the respondent's comment.
5.	To Amend	General Metering Installation Information	Meter Read Type Code	Field made 'Mandatory' and fourth character to identify whether meter capable of reading at five-minute granularity.	Per AGL initial Submission – Support. However, the AEMO proposal does not cater for 1 min meter intervals – which has been suggested would be needed for the implementation of some DER proposals. AGL suggests that the enumerations cater for 1,5,10,15 and 30 min data capture rates – ie A=1, B=5, C=10, D=15, E=30 Noting that 15 min meters will not be removed for 5 ms and 1 min is a valid selection under 5ms. AGL is unclear if there are any 10 min meters, but they would be a valid meter where the information was aggregated and provided at 30 min or divided and provided at 5 ms.	AEMO notes that 1 and 10 minutes intervals have not been approved, hence it is out of scope, and maybe catered for by future projects. As a result it will not be included as part of this MSDR project.

No.	Change Type	Information Category	Field Name	AEMO's Conclusion	Draft Comment	AEMO response
6.	To Amend	General Metering Installation Information	Meter Suffix	No change, AEMO notes that this field has always been 'Mandatory' and no change is required here.	Per AGL initial submission – Support	AEMO notes the respondent's comment.
7.	To Amend	General Metering Installation Information	Meter Use	Field to be made 'Required' with an enumerated list of values	Per AGL initial submission – Support	AEMO notes the respondent's comment.
8.	To Remove	General Metering Installation Information	Asset Management Plan	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
9.	To Remove	General Metering Installation Information	Calibration Tables	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
10.	To Remove	General Metering Installation Information	Meter Constant	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
11.	To Remove	General Metering Installation Information	Meter Point	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
12.	To Remove	General Metering Installation Information	Meter Program	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
13.	To Remove	General Metering Installation Information	Meter Route	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
14.	To Remove	General Metering Installation Information	Meter Test & Calibration Program	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
15.	To Remove	General Metering Installation Information	Meter Test Result Notes	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
16.	To Remove	General Metering Installation Information	Next Test Date	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.

No.	Change Type	Information Category	Field Name	AEMO's Conclusion	Draft Comment	AEMO response
17.	To Remove	General Metering Installation Information	Test Performed By	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
18.	Proposed Field	General Metering Installation Information	Disconnection Method	Field not to be added	AGL does not support this. As per our original submission, it is possible for a NMI to be Disconnected in multiple ways (Tails, Fuse, Pillar/Pit and Pole), whereas it is not possible to disconnect the registers in multiple ways.	AEMO notes that the majority of participant responses did not support the addition of this new field and no compelling reason was provided for adding it, as a result AEMO proposes this field not to be added.
19.	Proposed Field	General Metering Installation Information	Meter Commission Date	Field not to be added	AGL supported use of this field, but it is additional information.	AEMO notes the respondent's comment.
20.	Proposed Field	General Metering Installation Information	Meter Locks	Field not to be added	AGL notes the Draft Decision, but understands that the number of jobs affected by locks may be of a greater order than those affected by shared fuses. The rejection of this proposed information arose form Networks who would have been the providers, not he predominant users.	AEMO notes the respondent's comment and refers to the response in Table 16, item 4.
21.	Proposed Field	General Metering Installation Information	Minimum interval length	Field not to be added	Per AGL initial submission – Support	AEMO notes the respondent's comment.
22.	Proposed Field	General Metering Installation Information	Meter Family Failure	Field not to be added	AGL notes the proposal within the meter exemption comments and suggests that this information can be managed through that process.	AEMO notes the respondent's comment and refers to the response in Table 16, item 1.
23.	Proposed Field	General Metering Installation Information	Meter Test Report	Field not to be added	Per AGL initial submission – Support	AEMO notes the respondent's comment.

No.	Change Type	Information Category	Field Name	AEMO's Conclusion	Draft Comment	AEMO response
24.	Proposed Field	General Metering Installation Information	Plug-in Meter Flag	Field not to be added	Per AGL initial submission – Support	AEMO notes the respondent's comment.
25.	To Amend	Register Level Information	Controlled Load	Make field with enumerated list	Per AGL initial submission – Support Although categorisation of controlled load as CL1, CL2 etc is limited. AGL also queries how this information may operate with Demand Response Controlled Load – which may require DC1, DC2 etc	AEMO notes the respondent's comment and is currently not aware of charging for demand response controlled load.
26.	To Amend	Register Level Information	Time of Day	Make field with enumerated list	Per AGL initial submission – Support	AEMO notes the respondent's comment.
27.	To Remove	Register Level Information	Demand 1	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
28.	To Remove	Register Level Information	Demand 2	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
29.	To Remove	Metering Installation Location Information	Additional Site Information	Field to be removed and contents moved to the existing field Meter	Noted	
30.	To Amend	Metering Installation Location Information	Meter Location	Increase field size to accommodate data from Additional Site Information	Noted	
31.	To Amend	Meter Read Estimation Information	Next Scheduled Read Date	Modify field from 'Optional' to 'Required' for all manually read meters	Per AGL initial submission – Support	AEMO notes the respondent's comment.
32.	To Remove	Meter Read Estimation Information	Data Validations	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
33.	To Remove	Meter Read Estimation Information	Estimation Instructions	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
34.	To Remove	Meter Read Estimation Information	Measurement Type	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.

No.	Change Type	Information Category	Field Name	AEMO's Conclusion	Draft Comment	AEMO response
35.	To Remove	Meter Communications Information	Communications Equipment Type	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
36.	To Remove	Meter Communications Information	Communication Protocol	Field to be removed	Noted	
37.	To Remove	Meter Communications Information	Data Conversion	Field to be removed	Per AGL initial submission – Support	AEMO notes the respondent's comment.
38.	To Remove	Meter Communications Information	Password	Field to be removed	Noted	
39.	To Remove	Meter Communications Information	Remote Phone Number	Field to be removed	Noted	
40.	To Remove	Meter Communications Information	User Access Rights	Field to be removed	Noted	
41.	To Remove	Address Structure	Unstructured Address	Field to be removed	AGL notes the Draft Decision, but strongly re-iterates that unstructured should be retained to manage special locations (eg generator sites, UMS sites, rural sites etc) which are not supported by a structured address.	AEMO notes the respondent's comment and refers to the response in Table 16, item 16.
42.	Proposed Field	Address Structure	G-NAF PID	Field to be added	Per AGL initial submission – Support	AEMO notes the respondent's comment.
43.	To Amend	Feeder Class	Feeder Class	Field to be made 'Required' for Queensland	Per AGL initial submission – Support	AEMO notes the respondent's comment.
44.	Proposed Field	Transmission Node Identifier 2	Transmission Node Identifier 2	Field to be added	Per AGL initial submission – Support	AEMO notes the respondent's comment.
45.	Propose To Remove	NER Schedule 7.1	Loss compensation calculation details	Field to be proposed to be removed from Schedule 7.1.2	Noted – Agree	AEMO notes the respondent's comment.

No.	Change Type	Information Category	Field Name	AEMO's Conclusion	Draft Comment	AEMO response
46.	Propose To Remove	NER Schedule 7.1	Data register coding details	Field to be proposed to be removed from Schedule 7.1.2	Noted – Agree	AEMO notes the respondent's comment.
47.	Propose To Remove	NER Schedule 7.1	Write' password (to be contained in a hidden or protected field)	Field to be proposed to be removed from Schedule 7.1.2	Noted – Agree	AEMO notes the respondent's comment.