
MSATS 47.10 Technical Specification

1.00 September 2021

Release series: MSATS4710522

Important Notice

PURPOSE & AUDIENCE

This document describes the technical changes required to participant's systems for the (Release). The Australian Energy Market Operator (AEMO) provides this information as a service targeting business analysts and IT staff in participant organisations. It provides guidance about the changes to their market systems under the National Electricity Rules (Rules), as at the date of publication.

HOW TO USE THIS DOCUMENT

- If you have questions about the business aspects of these changes, please see Consultations on [AEMO's website](#).
- The references listed throughout this document are primary resources and take precedence over this document.
- Unless otherwise stated, you can find resources mentioned in this guide on AEMO's website.
- **Text in this format** is a link to related information.
- **Text in this format**, indicates a reference to a document on [AEMO's website](#).
- **Text in this format** is an action to perform in the MSATS Web Portal.
- This document is written in plain language for easy reading. Where there is a discrepancy between the Rules and information or a term in this document, the Rules take precedence.
- Rules and Glossary Terms are capitalised and have the meanings listed against them in the **National Electricity Rules (NER)** and **Guide to MSATS and B2B Terms**.

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VERSION HISTORY

1.00 Initial publication of MSATS 47.10 Technical Specification. Information was originally published in MSATS 46.98 Technical Specification.

DOCUMENTS MADE OBSOLETE

The release of this document changes only the version of MSATS 47.10 Technical Specification.

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Support Hub: To contact AEMO's Support Hub use [Contact Us](#) on AEMO's website or Phone: 1300 AEMO 00 (1300 236 600) and follow the prompts.

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1. Introduction

This MSATS 47.10 Technical Specification (Release) describes the projects planned by AEMO from a participant perspective and includes changes related to participants' IT systems.

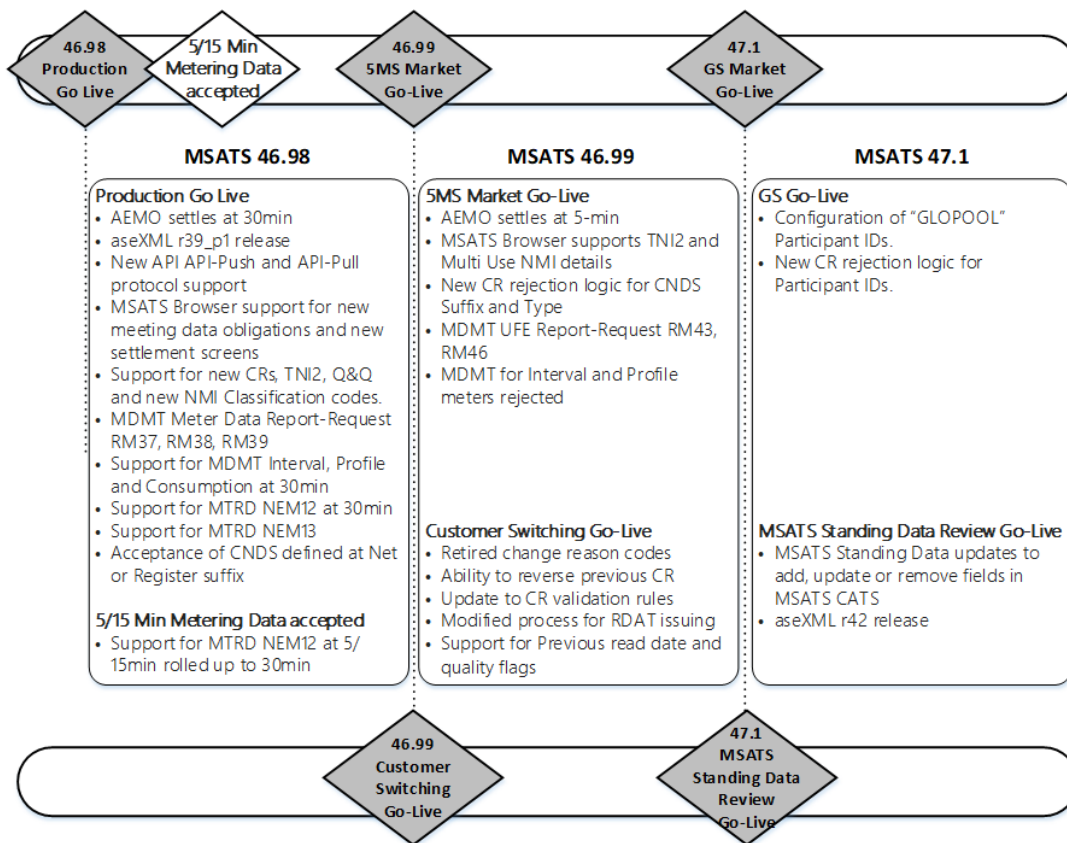
For milestones, including pre-production refresh dates, see **MSATS 46.98 Technical Specification**.

1.1 Projects

1.1.1 5MS retail

The 5MS retail project has 3 separate MSATS releases:

1. **MSATS 46.98 Technical Specification**: covers the go-live of the MDM platform ahead of 5MS market start.
2. **MSATS 46.99 Technical Specification**: covers the 5MS market start where AEMO settles the market at 5-minute intervals using settlements by difference and begins reporting on UFE. Also includes Customer Switching.
3. **MSATS 47.10 Technical Specification**: (this document) covers the Global Settlement go-live rule change.



1.1.2 B2B Transactions project

The MSATS 47.0 technical specification delivers the changes from the B2B Procedures v3.4 and v3.5 consultations.

5MS functionalities

The 5MS MSATS 47.10 functionalities included in this Release are:

Settlements	AEMO settles the market at 5-minutes by Global Settlements
Standing Data and CRs	The introduction of new Change Request (CR) rejection logic to support participants adherence to procedural obligations The GLOPOOL Participant ID is made effective
Reports	AEMO's obligation to publish Unaccounted For Energy (UFE) is formalised

1.2 Status

Version	Status
1.00	This technical specification presents the MSATS 47.10 design at the time of publication. It may change as participants provide feedback and test. Please send feedback to supporthub@aemo.com.au .

1.3 Version numbers

Incremental version numbers such as 0.01, 1.01, 2.01 and so on mean a draft version or a small change to the technical specification.

Major version numbers such as 1.00, 2.00 means there are substantial changes to the technical specification. Participants must carefully review these changes, detailed below.

AEMO releases new versions of this document as the technical requirements are streamlined.

1.4 Changes in this version

No changes, this is the initial version.

1.5 Audience

AEMO provides this information as a service targeting business analysts and IT staff in participant organisations.

1.6 Related resources

The following resources are related to this Release. They are primary resources and take precedence over this document.

Details	Type
MSATS 46.99 Technical Specification	5MS and Customer Switching releases
MSATS 46.98 Technical Specification	5MS, Customer Switching schema, B2M aseXML schema r39_p1
National Energy Retail Rules	Rules
7.16.2 National Electricity Rules	Rules
MSATS Procedures – CATS Procedure Principles and Obligations v4.9	Procedure
MSATS Procedures: Procedure for the Management of WIGS NMIs v4.9	Procedure
Standing Data for MSATS	Guide
Retail Electricity Market Glossary and Framework	Procedure

1.7 Schedule

For details, see the [Program Calendar and Timeline](#).

1.8 Approval to change

No approval or agreement to change required from participant change controllers.

AEMO sought approval in:

- [1. AEMC's Five-Minute Settlement rule change](#)

2. 5MS

2.1 Change requests

Change request	Change	Action
1000	New Rejection Logic for GLOPOOL participant ID on FRMP role	Add
1020	New Rejection Logic for GLOPOOL participant ID on FRMP role	Add
2000	Changes to Status Notification Rules	Update
2000	New Rejection Logic for GLOPOOL participant ID on FRMP role	Add
2000	New Rejection Logic for GLOPOOL participant ID on LR role	Add
2001	Changes to Status Notification Rules	Update
2001	New Rejection Logic for GLOPOOL participant ID on FRMP role	Add
2001	New Rejection Logic for GLOPOOL participant ID on LR role	Add
2500	Changes to Status Notification Rules	Update
2500	New Rejection Logic for GLOPOOL participant ID on FRMP role	Add
2500	New Rejection Logic for GLOPOOL participant ID on LR role	Add
2501	Remove Status Notification Rules for Participant Type	Remove
2501	New Rejection Logic for GLOPOOL participant ID on FRMP Role	Add
2501	New Rejection Logic for GLOPOOL participant ID on LR role	Add
5001	New Rejection Logic for GLOPOOL participant ID on FRMP role	Add
5001	New Rejection Logic for GLOPOOL participant ID on LR role	Add

Change request	Change	Action
5050	Change to Status Notification Rules	Update
5051	Change to Status Notification Rules	Remove
5080	Change to Status Notification Rules	Remove
5081	Change to Status Notification Rules	Remove
6400	Inactivate Change Request Type	Remove
6401	Inactivate Change Request Type	Remove
6700	Change to Status Notification Rules	Update
6701	Change to Objection Rules	Update

2.1.1 CATS CR objection rules

The ability for Local Retailers to object to a CATS CR is removed.

Details of affected CRs are documented in the **CATS and WIGS Procedures**.

2.1.2 GLOPOOL participant

Logic introduced to reject transfer CRs to reject transfers where the FRMP Participant ID equals GLOPOOL.

2.1.3 Change LR

CRs CR6400 and CR6401 are removed.

2.1.4 CATS CR notifications

Notifications for CR Status changes to Local Retailers is removed.

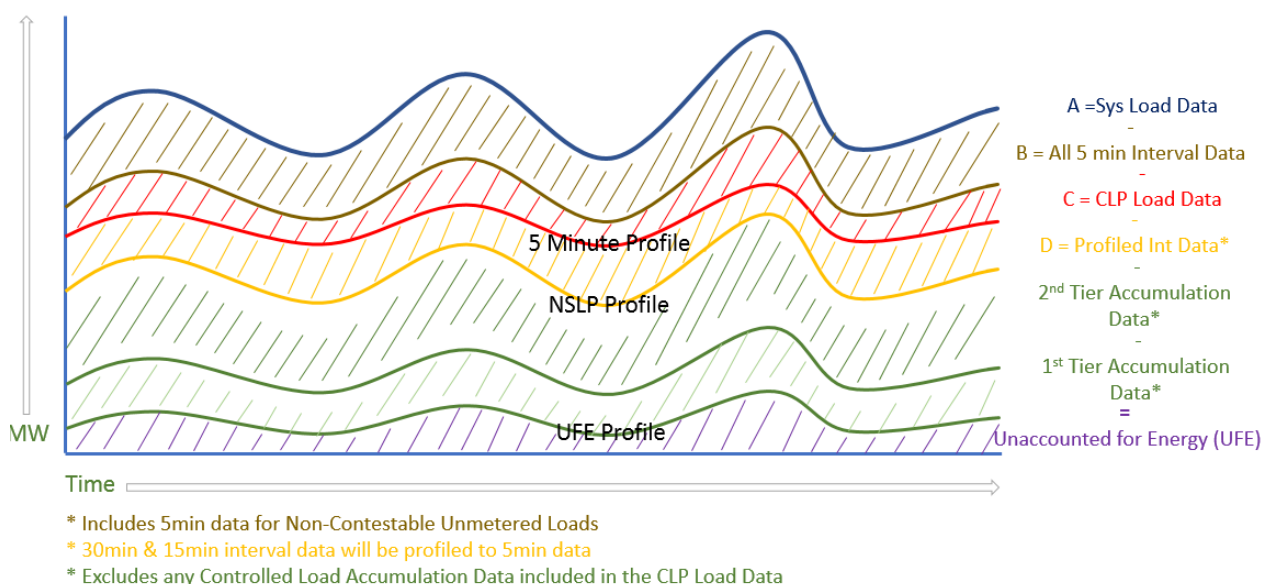
3. UFE Calculation Prior to Global Settlements Go Live

Unaccounted for Energy (UFE) is the remainder of Energy flowing in or out of a Local Area after calculating the sum of all recorded load, generation, and Distribution Loss Factors (DLFs).

Currently, UFE is included with Tier 1 consumption and assigned to Local Retailers (LRs). For 5-Minutes Settlements, AEMO calculates and reports the UFE proportioned for each FRMP.

3.1 UFE calculation example

Import (generation) 1000 kWh – { Export (load) 900 kWh + Loss Factor (DLF 1%) 9 kWh } = UFE 91 kWh



When 5-Minute Settlement goes live, AEMO continues to bundle UFE with the Tier 1 basic data and the Non-Contestable Unmetered Loads with the Local Retailer (LR) Settlement.

3.2 AEMO calculation of UFE values

AEMO must calculate UFE values and show how it is applied to each Retailer (FRMP) in a Global Settlements (GS) environment.

To provide an accurate UFE calculation all loads are set up in MSATS and Metering Data provided.

Market Participants are required to do the following in MSATS:

1. Create or update all Tier 1 NMIs having an active NMI Datastream and provide MDP Metering Data.
2. Register Non-Contestable Unmetered Loads and provide MDP Metering Data.

3.3 Calculation of UFE for market participants

UFE is calculated separately for each Local Area and applied to each Retailer (FRMP) by the proportion of Energy used in the Local Area.

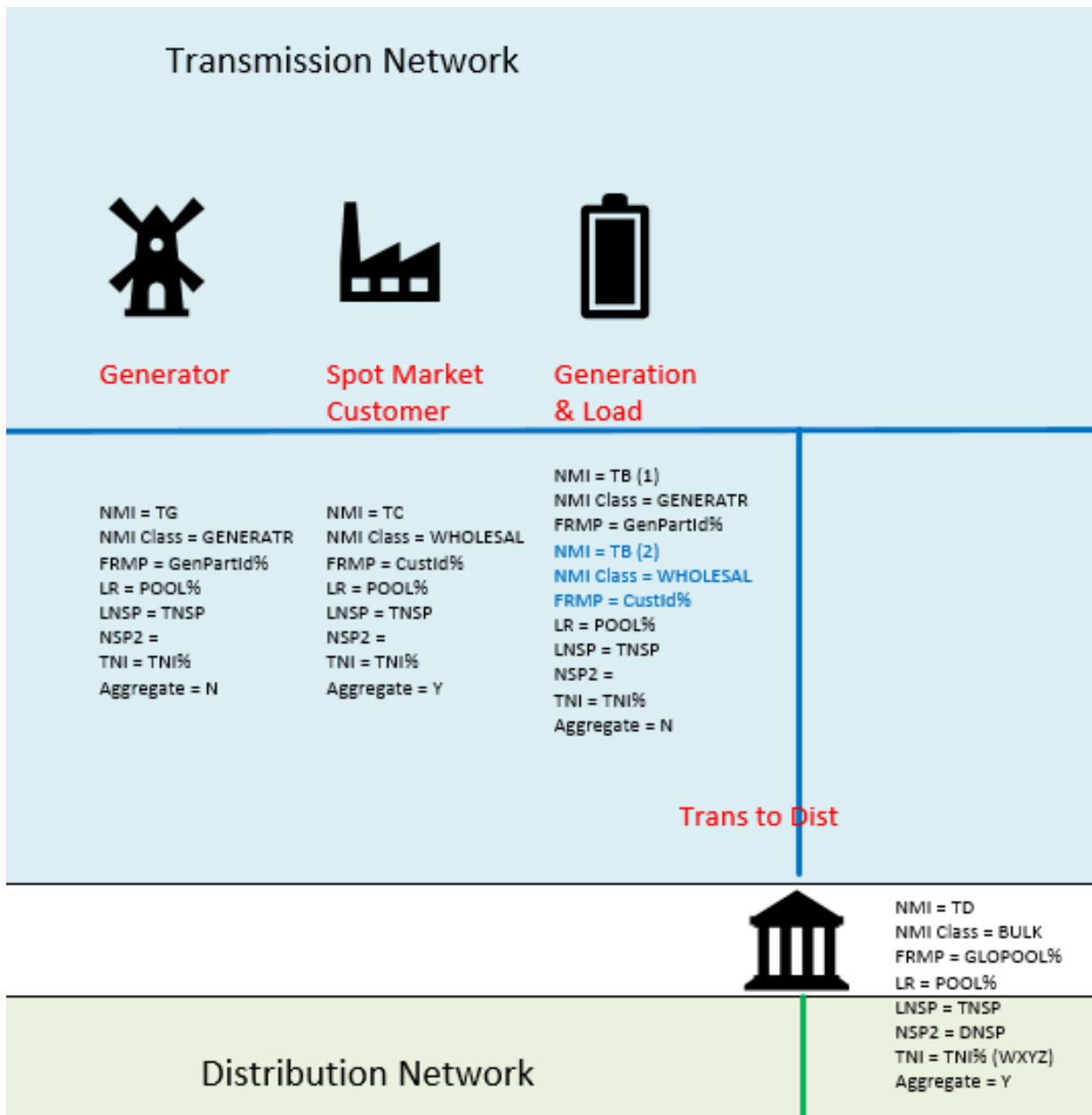
For example, Retailer 1 uses 404 kWh, Retailer 2 uses 202 kWh, and Retailer 3 uses 303 kWh. Continuing from the UFE calculation example on page 11.

1. UFE Retailer 1 = Energy Used 404 / Total Energy used 910 x Total UFE 91 = 40.44
2. UFE Retailer 2 = Energy Used 202 / Total Energy used 910 x Total UFE 91 = 20.22
3. UFE Retailer 3 = Energy Used 303 / Total Energy used 910 x Total UFE 91 = 30.33

3.4 Changes to NMI standing data

To aid the Settlements process new NMI Classification Codes are created. Below are examples of the application of the new NMI Classification Codes.

3.4.1 Transmission network connection point examples



3.4.2 Changes for transmission network connection points:

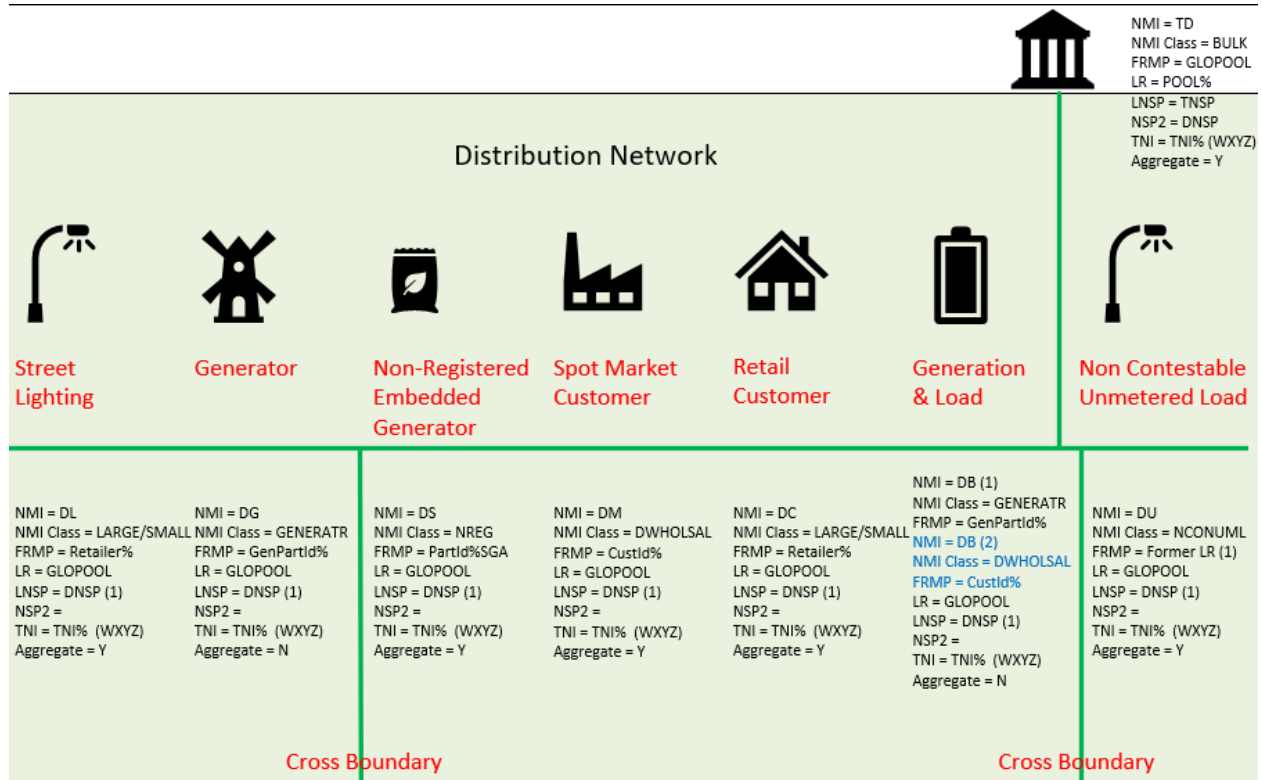
Transmission Network to Distribution Network Connection Points change to BULK to differentiate them from WHOLESAL customer connections.

Participant changes for Global Settlements

Transmission Network to Distribution Network Connection Points have the Financial Responsible Market Participant (FRMP) Participant ID changed to GLOPOOL.

3.4.3 Distribution network connection point examples

Local Retailers no longer receive boundary Metering Data.



3.4.4 Changes for distribution network connected points

A new Non-registered Embedded Generator code of NREG is included to separate registered and non-registered Generators.

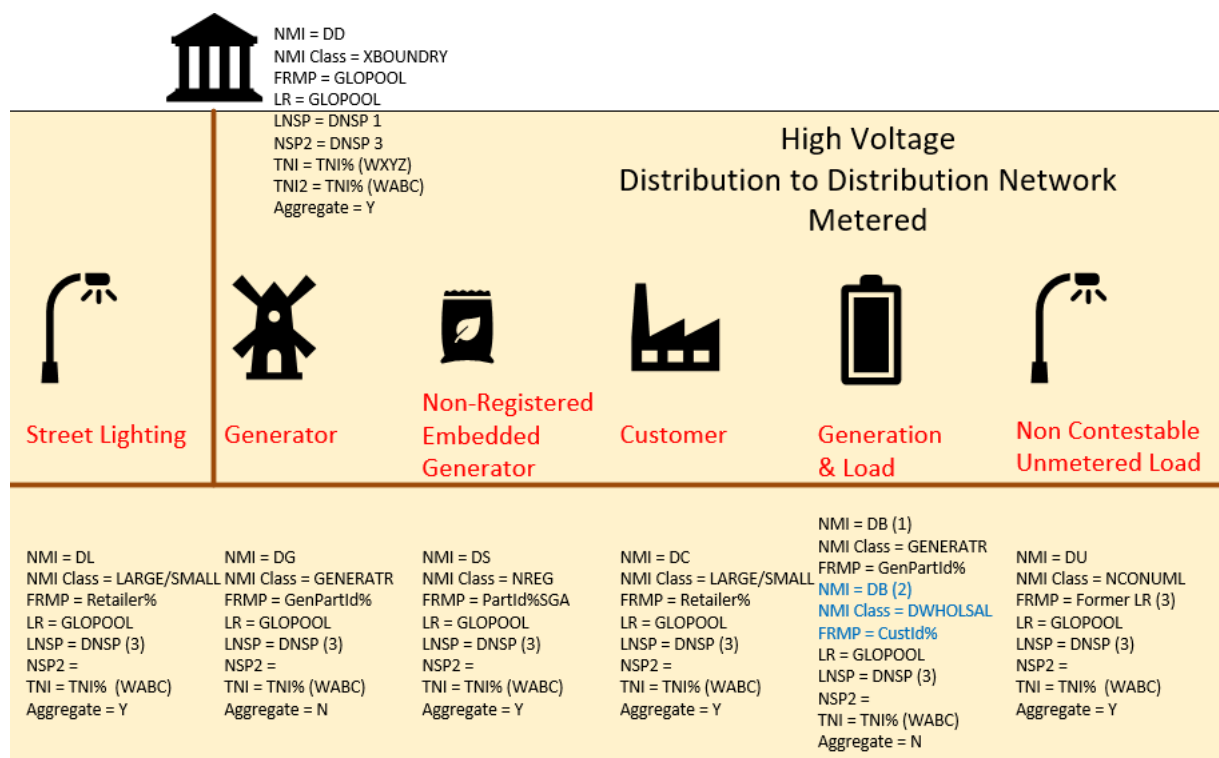
A new Distribution Network wholesale code of DWHOLSAL is introduced to distinguish Distribution Network Connection Points purchasing from the Spot Market from the Transmission Network Connection Points.

A new Non-Contestable Unmetered Load code of NCONUML is introduced.

Participant changes for Global Settlements

All Distribution Network Connection Points have the Local Retailer (LR) Participant ID changed to GLOPOOL where the Connection Point is not an Embedded Network Child.

3.4.5 Metered distribution network to adjoining distribution network connection point examples



3.4.6 Changes for Metered cross-boundary connection points:

Distribution Network to adjacent Distribution Network Metered Connection Points

A new cross-boundary code of XBOUNDRY is introduced to differentiate them from WHOLESAL customer connections.

A second TNI code is assigned to record the receipt Distribution Network TNI code.

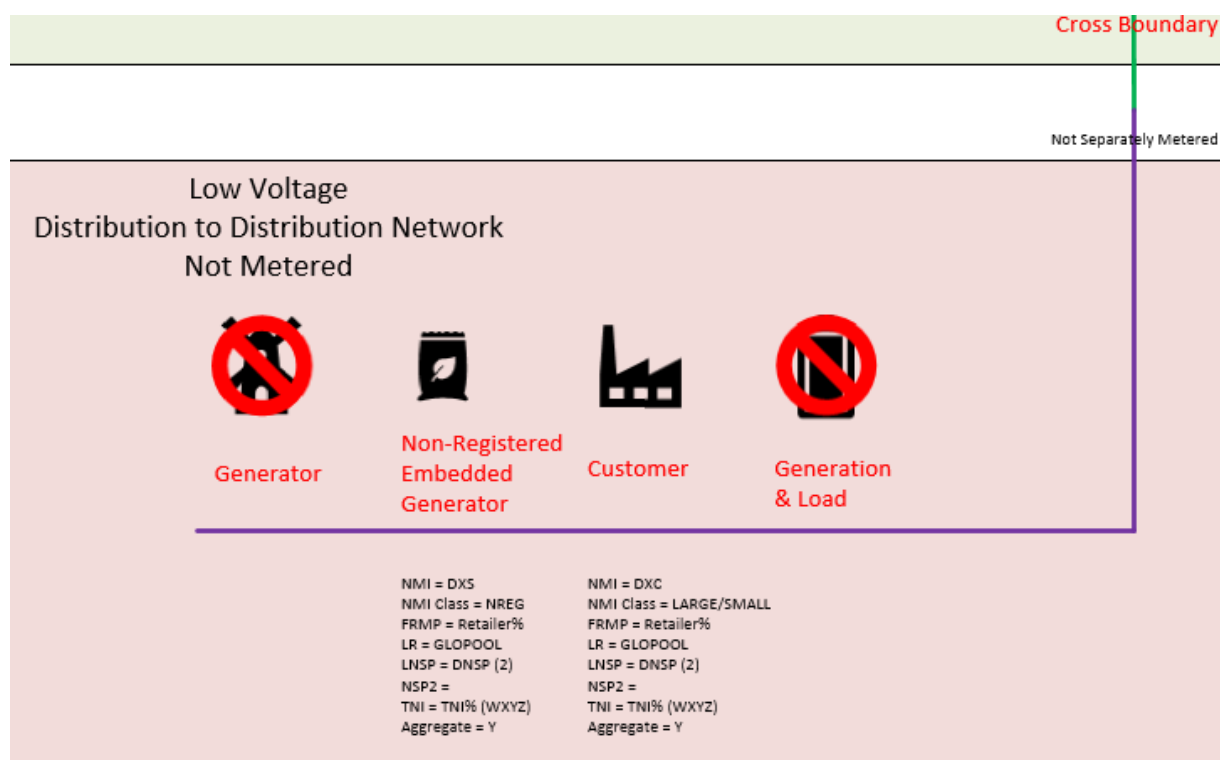
Participants must supply the cross-boundary Connection Point for LV connections, where the receiving Distribution Network load can be altered (for example new Connection Points) without the supplying Distribution Network knowledge.

Participant changes for global Settlements

The Local Retailer (LR) and Financial Responsible Market Participant (FRMP) are changed to GLOPOOL for all cross-boundary Connection Points.

All Distribution Network Connection Points have the Local Retailer (LR) Participant ID changed to GLOPOOL where the Connection Point is not an Embedded Network Child.

3.4.7 Unmetered distribution network to adjoining distribution network connection point examples.



3.4.8 Changes for unmetered cross-boundary connected points

TNI codes for each of the end-use Connection Points in the receiving Local Area **must** have the Transmission Network supplying TNI code.

Generator and battery connections are not accepted without boundary Metering.

Participant changes for Global Settlements

All Distribution Network Connection Points have the Local Retailer (LR) Participant ID changed to GLOPOOL where the Connection Point is not an Embedded Network Child.

3.5 Summary of changes for UFE

3.5.1 Prior to 5-minute Settlements

1. All Tier 1 NMIs must have an active NMI Datastream in MSATS.
2. Metering Data is provided to AEMO for all Tier 1 NMIs.
3. All Non-Contestable Unmetered Loads are registered in MSATS.
4. Metering Data is provided to AEMO for all Non-Contestable Unmetered Loads.
5. NMI Classifications are updated for existing Connection Points.
6. Distribution Network to Distribution Network cross-boundary supplies are Metered.

3.5.2 Global Settlements go-live

1. The FRMP is updated on Transmission Network to Distribution Network and Distribution Network to Distribution Network Connection Points.
2. The Local Retailer is updated on all Distribution Network connected points, excluding Embedded Network Child Connection Points.
3. Local Retailers no longer receive Local Area Metering Data.

4. Participant Impact

4.1 In-flight change requests

4.1.1 Post go-live

MSATS rejects any new CRs received for retired Change Reason Codes.

4.1.2 Objections

Objections for Customer Switching are obsolete 21 days after implementation.

Participants can:

- Continue to raise Objections until the Objection Logging Period closes.
- Remove Objections until the Objection Clearing Period closes.

4.1.3 Change request processing

To effect transfer completion, where an RDAT is issued and a CR1500 is required, MSATS still requires the CR1500.

The usual processing of PEND and COM status continues.

4.1.4 Go-live configuration updates

Configuration change updates are as follows:

- Removal of the ability to initiate retired CR Codes.
- 65 Business Days / 90 Calendar Days post go-live configuration updates to remove notifications for retired CR Codes.

4.2 B2M aseXML schema change to r39_p1

To receive the new PreviousReadDate block, AEMO recommends participants upgrade to r39_p1 by deployment of this Release. Previous read dates

You can use NMI discovery 2 to get Previous Read Dates (PRD). For help, see NMI discovery stage 2 – obtain standing data results on page 8.

4.3 At the completion of this release

1. If this release affects you, change your systems for compatibility.
2. Be familiar with new error codes.
3. Be familiar with what happens to in-flight Change Requests.
4. Retired codes used in Change Requests are rejected.
5. You cannot raise Objections on retired objection codes.
6. You can only send Notifications to parties according to the Notification Rules.
7. You cannot select the MDP, MPB, and MPC roles in the CR 1000 to 1099 range.
8. The role of RP is an optional field in the CR 1000 to 1099 range, excluding 1060 and 1061.

5. Implementation

To maintain systems in-line with AEMO's market systems, participants need to:

- Review and assess the impact on their market systems with respect to the changes implemented as part of this Release.
- Schedule staff and resources to upgrade their market systems for the production implementation of this Release.

5.1 Key consideration

For Customer Switching the key is upgrading to the B2M aseXML schema r39_p1 to receive the new fields.

5.2 Upgrade options

5.2.1 Option 1

- Update local processes and technical interfaces to suit the changes.

5.2.2 Option 2

- If changes are irrelevant to participant business processes and technical interfaces, ignore this release.

5.3 Risks

- No critical impacts to participants identified.

5.4 What happens if I do not upgrade?

You cannot receive the new PreviousReadDate block in B2M schema r39_p1.

6. Terms

6.1 Rules terms

You can find the following terms defined in the [National Electricity Rules \(NER\)](#).

Term

AEMO

AER

Business Day

End-use Customers

Market Participant

Meter

Metering Data

Metering Installation

NEM

NMI

Retailer

6.2 Glossary

You can find a full list of MSATS glossary terms in:

1. **Retail Electricity Market Glossary and Framework**
2. **Guide to MSATS and B2B Terms**

Abbreviation/Term	Explanation
COAG	Council of Australian Governments
Release	MSATS 47.10 Technical Specification
Schema	B2M aseXML schema r39_p1
TBC	To be confirmed

7. References

aseXML standards: The standard developed by Australian energy industries to facilitate the exchange of information between energy industry participants using XML.

Guide to MSATS and B2B Terms: Assists participants to understand the terms used in the MSATS guides.

Guide to MSATS Web Portal: Assists participants to use the MSATS web portal functions.

Guide to NEM Retail B2M APIs: Explains how to build B2M retail metering APIs.

Guide To Transition Of aseXML: Provides information and guidance for participants transitioning to another B2M or B2B asexml schema.

Guide to User Rights Management: Assists participant administrators (PAs) to use the user rights management functions in the MSATS Web Portal.

Introduction to MSATS: Provides an introduction to the Market Settlement And Transfer Solution (MSATS), including using the file interface (Batch Handlers).

Retail Electricity Market Glossary and Framework: assist participants to understand the overall retail electricity framework. Contains terms used in the Retail Electricity Market Procedures and a list of NEM procedures, guidelines, and documents.

MDM File Format and Load Process: Specifies the Meter Data Management (MDM) Format used by MDPs for the provision of Metering Data to AEMO.

MSATS 46.98 Technical Specification -5MS -Meter Data: The 5-Minute Settlement - Meter Data is part of 5MS and includes changes related to participants' IT systems.

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9. Appendix 1 - Version History

No version history.