



Guide to Enterprise Metering Data Management

Version 1.0

May 2021

Supplement to the Metering procedures,
guidelines, and processes, providing an
understanding of eMDM functionality and business
rules

Important Notice

PURPOSE

This Guide to Enterprise Metering Data Management, prepared by the Australian Energy Market Operator (AEMO), provides guidance for Software name under the National Electricity Rules (Rules).

NO RELIANCE OR WARRANTY

This document does not constitute legal or business advice, and should not be relied on as a substitute for obtaining detailed advice about the National Gas or Electricity Law, the Rules or any other applicable laws, procedures or policies. While AEMO has made every effort to ensure the quality of the information in this Guide, neither AEMO, nor any of its employees, agents and consultants make any representation or warranty as to the accuracy, reliability, completeness, currency or suitability for particular purposes of that information.

LIMITATION OF LIABILITY

To the maximum extent permitted by law, AEMO and its advisers, consultants and other contributors to this Guide (or their respective associated companies, businesses, partners, directors, officers or employees) are not liable (whether by reason of negligence or otherwise) for any errors, omissions, defects or misrepresentations in this document, or for any loss or damage suffered by persons who use or rely on the information in it.

TRADEMARK NOTICES

Microsoft, Windows and SQL Server are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Oracle and Java are registered trademarks of Oracle and/or its affiliates.

UNIX is a registered trademark of The Open Group in the US and other countries.

© 2015 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

DISTRIBUTION

Available to the public.

DOCUMENT IDENTIFICATION

Business custodian: Manager, Metering

IT custodian: Manager, Retail Solutions

Prepared by: AEMO Technology

Last update: Tuesday, 4 May 2021 3:58 PM

VERSION HISTORY

1.0 Initial creation

DOCUMENTS MADE OBSOLETE

The release of this document changes only the version of Guide to Enterprise Metering Data Management.

FEEDBACK

Your feedback is important and helps us improve our services and products. To suggest improvements, please contact AEMO's Support Hub.

Contents

Chapter 1. Introduction	4
Purpose	4
Audience.....	4
What's in this guide	4
How to use this guide	5
Chapter 2. Need to Know.....	7
Related rules and procedures	7
Assumed knowledge	8
Chapter 3. About MSATS eMDM.....	9
What is MSATS eMDM?	9
Who can use MSATS eMDM?	9
How to use MSATS eMDM?	10
User rights access.....	12
Chapter 4. Profile Preparation	14
Estimation.....	15
Profile types.....	17
Profile creation and approval.....	19
Profile configuration.....	20
Chapter 5. Metering Data.....	23
Metering data	23
Metering data providers.....	24
Chapter 6. Settlement Data Scenarios	25
Settlement data cases	25
Rules terms	27
Support hub	28
References	29
Index	30

Chapter 1. Introduction

Purpose

This guide is a Supplement to the Metering procedures, guidelines, and processes, providing an understanding of eMDM functionality and business rules.

Audience

The audience for this guide is:

- Embedded Network Managers (**ENM**)
- Financially Responsible Market Participant (**FRMP**)
- Local Network Service Provider (**LNSP**)
- Local Retailer (**LR**)
- Metering Coordinator (**MC** or **RP**)
- Metering Provider - Maintenance (**MPB**)
- Metering Provider – Data Collection (**MPC**)
- Metering Data Providers (**MDP**)
- Network Service Provider (**NSP**)
- Second Network Service Provider (**NSP2**)

What's in this guide

Chapter 2 Need to Know Introduction on page 7 provides a list of rules, procedures, and guides related to MSATS.

Chapter 3 About MSATS eMDM on page 9 explains eMDM, functionality, interfaces, and User Rights Access.

Chapter 4 Profile Preparation on page 14 explains estimating gaps in interval Metering Data and profile preparation

Chapter 5 Metering Data on page 23 explains Metering Data, Metering Data Providers, viewing Metering Data online, and uploading Metering Data.

Chapter 6 Settlement Data Scenarios on page 25 explains settlement statements and committed and uncommitted settlement data cases.

Terms on page 27 has a list of NER terms used throughout this guide and where to find MSATS terms.

Needing Help on page 28 explains how to get help from AEMO's Support Hub.

References on page 29 has a list of resources mentioned throughout this guide

Out of scope

The following MSATS functionalities are out of scope for this guide:

- B2B information, see the **B2B Procedures** and **Guide to MSATS B2B** on [AEMO's website](#).
- B2M information, see **MSATS Procedures** and **Technical Guide to MSATS** on [AEMO's website](#).

How to use this guide

- The **Retail Electricity Market Procedures – Glossary and Framework** forms part of this guide and should be read with this guide.
- The references listed throughout this document are primary resources and take precedence over this document.
- Where there is a discrepancy between the Rules and information or a term in this document, the Rules take precedence.
- Where there is a discrepancy between the Procedures and information or a term in this document, the Procedures take precedence.
- This guide is written in plain language for easy reading.
- **Text in this format** indicates a reference to a document on AEMO's website.
- **Text in this format** indicates a link to related information.

- **Text in this format** is an action to complete in the Markets Portal interface.
- Glossary Terms are capitalised and have the meanings listed against them in the **Retail Electricity Market Procedures – Glossary and Framework** and **Guide to MSATS and B2B Terms**.
- Rules terms are capitalised and have the meaning listed against them in the Rules. Any Rules terms not capitalised still have the same meaning. Rules terms are listed on page 27.
- References to time are Australian Eastern Standard Time (AEST) unless otherwise specified.

Chapter 2. Need to Know

Related rules and procedures

You can find resources on [AEMO's website](#).

Resource	Description
MDM Procedures	The Metering Data Provision Procedures establish the minimum requirements for Metering Data provision by Retailers and Distribution Network Service Providers (DNSPs)
Metrology Procedures: Part A and B	Applies to AEMO, Registered Participants, Metering Providers, and Metering Data Providers in relation to Connection Points in the NEM
MSATS Procedures:	The CATS and WIGS Procedures apply to Registered Participants under the National Electricity Rules (NER). They form part of the MSATS Procedures mentioned in the Rules clause 7.2.8
CATS Procedure Principles and Obligations	The CATS Procedures apply to NMI Classification Codes Small and Large
Procedure for the Management of WIGS NMIs	The WIGS Procedures apply to the NMI Classification Code of Wholesale, Interconnector, Generator, and Sample
National Energy Retail Regulations	Under section 12 of the National Energy Retail Law and the National Energy Retail Law (South Australia) Act 2011 https://www.legislation.sa.gov.au/LZ/C/R/National%20Energy%20Retail%20Regulations.aspx
National Electricity Rules	Govern the operation of the NEM. The Rules have the force of law and are made under the National Electricity Law (NEL). https://www.aemc.gov.au/regulation/energy-rules/national-electricity-rules/current
NEM RoLR Processes, Part A and B	Define the processes for participants and AEMO follow to manage a RoLR Event

Resource	Description
----------	-------------

Retail Electricity Market Procedures – Glossary and Framework	Assist readers in understanding the MSATS framework with a list of NEM procedures, guidelines, documents, and a glossary of MSATS and B2B Terms
--	---

Assumed knowledge

This guide assumes you know the **Retail Electricity Market Procedures – Glossary and Framework**.

Chapter 3. About MSATS eMDM

Enterprise Metering Data Management (eMDM) is a centralised database of Metering Data received from accumulation (BASIC) and interval Metering Installations.

What is MSATS eMDM?

The eMDM component of MSATS is used for the receipt, storage, and aggregation of Metering (Datastream) data required for:

- Profile Preparation Service (PPS) and Basic Meter Profiler (BMP) functionality within MSATS.
- External BMP functionality, where allowed by Jurisdictional Rules.
- Storage of profile shapes generated both internally and externally.
- Provision of non-aggregated data is provided to eMDM for all Metering types required for data preparation in the Settlement process.
- Provision of aggregated data is provided for Settlement purposes.
- Configuration data to generate profiles conforming to Jurisdictional Metrology Procedures.
- Data estimation for missing intervals.

Who can use MSATS eMDM?

Registered Participants and AEMO have access to the information in the system under the National Electricity Rules (NER).

How to use MSATS eMDM?

This section describes the eMDM functionality, retail and metering roles, participant interfaces, and the inputs accepted by eMDM.

Inputs accepted by eMDM

eMDM accepts and stores all wholesale Energy data, including Generator, Interconnector, and Transmission Node Energy data. eMDM also receives Interval and Accumulated Metering Data that is read, profiled, deemed (for Unmetered Supply), Estimated or Substituted for every Datastream.

The Interval Metering Data, profiled data, unmetered deemed data, and wholesale data are accepted in eMDM Meter Data Notification Transactions.

eMDM functionality

eMDM includes the Profile Preparation Service, Accumulation Meter Profiling, and Data Aggregation. eMDM also stores configuration data required to create profiles, conforming to Jurisdictional Metrology Procedures and estimate missing data for required intervals.

eMDM retail and metering roles

eMDM retail and Metering Roles are:

- Embedded Network Managers (**ENM**)
- Financially Responsible Market Participant (**FRMP**)
- Local Network Service Provider (**LNSP**)
- Local Retailer (**LR**)
- Metering Coordinator (**MC** or **RP**)
- Metering Provider - Maintenance (**MPB**)
- Metering Provider – Data Collection (**MPC**)
- Metering Data Providers (**MDP**)

- Network Service Provider (**NSP**)
- Second Network Service Provider (**NSP2**)

eMDM participant interfaces

For details about access to AEMO's participant interfaces, see the [Guide to Information Systems](#).

Participants can create and submit eMDM Transactions using any interface described below:

- **MSATS Web Portal.**

Participants can submit and receive eMDM Transactions in the MSATS Web Portal interface. This interface is mainly used by participants having a limited number of files to process. For help, see [Guide to MSATS Web Portal](#).

- **File upload**

Participants can upload Transactions to the Participant File Server using the MSATS Web Portal. For help, see [Guide to MSATS Web Portal](#).

- **File Interface**

Participants can submit and receive eMDM Transactions using the Batch Interface (Batch Handlers) using FTP to the Participant File Server.

Participants with many files to process mostly use this interface, implementing an automated Batch Interface. For help, see [Guide to MSATS Participant Batcher software](#).

- **API e-Hub**

Participants can submit and receive eMDM Transactions using the API e-Hub. For details, see [Guide to NEM Retail B2M APIs](#).

eMDM functionality and interfaces

Table 1 below explains the interface you can use to interact with eMDM functionality.

Table 1 eMDM functionality and interfaces

Functionality	Description	API e-Hub	File interface	File upload	Web portal	Reference
Metering Data	Used for the receipt, storage, and aggregation of Metering (Datastream) Data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Page 23
Profile preparation (profile information)	Performs Metering Data Management (MDM) functions such as estimation and profiling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Page 14
Settlement data	Authorised users can view Settlement data	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Page 25

User rights access

To access MSATS functionality, Participant Users must have the appropriate User Rights Access. The access Right determines the functionalities and Transactions you can use:

Interface	Entity
API	Interactive
Batch Interface:	Batch
File Upload	Interactive
MSATS Web portal	Interactive

Your company's Participant Administrator (PA) can provide your access details. PAs authorise Participant User access in MSATS. The AEMO System Administrator sets up the initial PA as part of the registration process. If you do not know who your company's PA is, contact AEMO's Support Hub.

The **Guide to User Rights Management** provides details about:

- Providing access to MSATS functionality for Participant Users.
- Creating and maintaining passwords.

Chapter 4. Profile Preparation

Profiling is the technique used to apportion the total Meter Readings for Settlement purposes. It applies typical usage shapes to Loads not metered against the standard cycles, ensuring Energy Retailers can reconcile the market.

A Profile dictates the typical usage for a type or class of Retail Customer. For example, Residential Customers may be expected to consume more significant amounts of electricity in the mornings and evenings because electricity consumption may peak at 8 AM and then again at 6 PM.

By overlaying a Profile on the Meter Reading, as recorded by the Customer's Meter, covering the same period, AEMO can settle electricity purchases at the wholesale level. The total consumption represented by the Meter Reading is apportioned to each Trading Interval based on the Profile shape.

The Metering Installation Type Code identifies the type of Meter(s) attached to an NMI. For example, Interval or Basic, and for each type, whether they are manually or remotely read.

The code selected may affect the Change of Retailer Transaction process flow. To read a Meter manually, the Metering provider must supply the Actual Read Date (Change Request 1500) before the Transaction is Completed for some types of Change Requests. If it does not have to be manually read, then the Transaction can be Completed as of the Requested transfer date. (The Change Requests that potentially require an Actual Read Date are those that have Field Validation Rules where Actual Change Date has a Data Source code of RA.)

Each Metering Installation Type Code has a flag set to indicate whether a manual read is required. Note, though, that in most cases, even if the Metering installation type is remotely read, the Remotely Read Flag has been set to Y. This was a decision made by industry when defining the configuration for eMDM. For such Metering types, the date supplied by the Metering Data Provider (MDP) is when the remotely readable Metering configuration is confirmed as Code compliant.

Equally crucial for eMDM's purpose are the NMI's Datastreams. The Datastreams define the streams of data that eMDM can expect from each NMI. The Datastream definition includes the type of data that MSATS expects to receive (Interval or Consumption).

The value selected is dependent on the Metering Installation Type. For example,

Metering Installation Type	Datastream Type
BASIC	C (Consumption)
COMMSn or MRIM	I (Interval)

The Datastream definition also includes the Profile Name it is associated with and if the Datastream is active (If Metering Data needs to be supplied).

This information helps the Metering Provider, PPS, and BMP determines the relevant data to create a profile or which profile is to be applied.

The Metering details against an NMI are set up when the NMI is first created (Change Reason Code 2500 or 2501) or later (with a Change Reason Codes 3000 or 3001).

The Datastream details against an NMI are set up when the NMI is first created (Change Reason Code 2500 or 2501) or later (with a Change Reason Codes 4000 or 4001 etc.).

Estimation

Estimated Metering Data plays an essential part in profiling and the wholesale Settlement process. MSATS uses historical data to calculate values where the MDP does not provide actual data. Not all actual Metering Data is loaded into MSATS in time for the first Settlement run (Interval and Accumulation Meters). As subsequent Settlement runs are processed, the amount of actual data available increases and the need for estimation reduces.

Initial runs for Prudentials are for a shorter period (rolling 5-day window). Several runs are used over time as more data becomes available.

AEMO publishes settlement statements for a given trading week as follows:

- Preliminary (trading week + 5 Days).
- Final (trading week + 18 Business Days).
- Routine Revision 1 (trading week + approximately 20 weeks).
- Revision 2 (trading week + approximately 30 weeks).
- Special Statements (on an ad hoc basis within 28 Days of notice of major corrections).

- There are 3 main functions for Estimated Metering Data when calculating the Net System Load Profile and during Final Aggregation:
 - a. Gaps in Interval Metering Data.
 - b. Gaps for Accumulation Meters.
 - c. Gaps in Profile shape data.

Estimating gaps in interval metering data

Metering Data Providers must provide either estimated or actual data for each of the Datastreams needed to be settled.

The first stage of the Settlement process performs an aggregation (sum up) of Interval Meters against NMIs in MSATS. During this process, some of the active NMI Datastreams may be missing Metering Data, so it is estimated, according to the Metrology Procedures, to allow the Settlement process to continue.

When Interval Meter Readings are not available, MSATS uses a Proxy Day Methodology to estimate the Load. Proxy Day selects values from the most recent Day to the Day for estimation, with the same:

- Day type: Saturday, Monday, and so on.
- Season type: Spring, summer, and so on.
For the Proxy Day Methodology, MSATS defaults the season type to one season only.
- Date grouping: Weekends, Weekdays, Public Holidays, and so on.

If MSATS uses an estimate, it is reported in the RM22 - Data Estimation Report.
See [Guide to MSATS Reports](#).

If an estimate is required, it is reported in the Data Estimation report

If there is no actual historical data available to use as an estimate for the missing data, MSATS uses the Average Daily Load divided by the number of Daily Trading Intervals.

For the Estimation Procedure ([Metrology Procedure: Part B](#)) and Settlement processes to complete successfully, MSATS must have Active NMI records. These active NMI records must also contain active Datastreams.

Profile application for accumulation (basic) meters

When there is no actual or estimated read for an Accumulation Meter, MSATS provides an estimate for the Day. The forecast is derived from the Average Daily Load stored against the CATS Datastream.

When a profile is applied to Accumulation Meter reading or MSATS estimate, a Usage Factor is created to use in the Settlement process. The Usage Factor identifies a Datastream's consumption in terms of its contribution to the overall sum of Profile loads for a date range. If a Datastream's Usage Factor is 0.0001, it has contributed one ten-thousandth of the data for the overall consumption for that date range.

For the Estimation and Settlement processes to complete successfully, MSATS must have Active NMI records. These active NMI records must also contain Active Datastreams.

Datastreams are streams of Metering Data associated with a Connection Point, as represented by a NMI. A NMI can have multiple Datastreams (from one or more Meters or from one or more channels or registers that comprise a single Meter). Each Datastream is identified by a suffix associated with the NMI it belongs to.

Profile types

AEMO sets up MSATS profiles once the appropriate Jurisdictions approve them. Participant Users cannot create or modify these Profiles. The Profile Types used by MSATS for the Estimation Procedure are listed below.

Net system load profiles

The Net System Load Profile (NSLP) is the residual of the total Energy consumption for a time period minus all known Profile and consumption information for the same period.

Taking the bulk Supply Load of electricity at each TNI and adding them together provides the Total Energy Consumption over a Trading Period.

All known values are removed from the Total Energy Consumption value. Known information includes all Interval Consumption data and other known unmetered consumption data, such as street or traffic lights (as their consumption patterns and profiles remain the same for a given Day-type and season). Data for these types of Metering Installations is provided to MSATS as Interval Metering Data.

Other known removed information can include profiled Interval Metering Data for Accumulation Meters where the Profile shape is already calculated based on a Profile independent of the NSLP. This is the case for New South Wales and South Australian NSLPs. The Controlled Load Profile (CLP) Datastreams is calculated from Interval Metering Data collected from a sample set of controlled Loads having Interval Metering Installations. The CLP is then applied to all Accumulation Meter Controlled-Load Datastreams to produce Interval Metering Data, and that data is removed as part of the NSLP calculation.

The NSLP is the remaining consumption data not yet profiled or broken down into Trading Periods. This profile is applied to the Metering Data from applicable Consumption Datastreams to break it down into the correct Trading Periods.

eMDM locks all profiles at 15 weeks as most Actual Metering Data is available for the trading week, and any further changes do not significantly affect the profile shape.

Internally generated (non-NSLP) profiles

Internal profiles are usually generated from Sample Meters.

Externally generated profiles

External Profiles are created by the external Profile Preparation Services (PPS) using algorithms maybe based on:

- Static historic Load research
- Engineering Profiles
- Dynamic sampling

Deemed profiles

Deemed profiles are only used for type 7 Meters. For more information on Meter Installation Type Codes, see [Guide to MSATS Web Portal](#).

Proxy day profiles

Proxy Day Profiles are only used to estimate missing data for Interval Meters.

Profile creation and approval

AEMO and Market Participants are notified when a Jurisdiction approves a new Profile. Jurisdictions publish new or updated [Metrology Procedures](#) with these Profiles, then AEMO creates the Profile in MSATS.

The components involved in setting up these Profiles are:

- TNI codes (CATS function)
- Profile Areas
- Profile Data Sources
- Profile Methodologies
- Profile Names

Once created, each component is linked to the correct NMIs by assigning the Profile Name to each applicable NMI Datastream. Once everything is set up, all active Datastreams (where Datastream Status Code = A) assigned to this Profile Name is profiled according to the Profile shape data each time a Settlement case is processed.

Profile configuration

AEMO sets up and maintains Profile configurations. Authorised Participant Users can view the following profile configurations from the [MSATS Web Portal > Profile Preparation](#). For details, see [Guide to MSATS Web Portal](#).

If a Participant User has access rights they can view CATS and TNI codes in MSATS from Codes Maintenance > TNI Codes.

Profile area

A Profile Area is a virtual grouping of TNIs (over a given geographical area) used for Settlement calculations. A single Net System Load Profile (NSLP) is calculated for each Profile Area defined in MSATS. Each TNI is only allocated to one Profile Area.

If a Jurisdiction permits type 6 Metering Installations, the TNIs are assigned to Profile Areas under the [Metrology Procedure](#). A Profile Area is only assigned to 1 jurisdiction. Profile Areas are based loosely on Distribution Network Service Provider (DNSP) boundaries.

In jurisdictions where a [Metrology Procedure](#) is not active for type 6 Metering installations, the allocation of TNIs to Profile Areas is arbitrary.

The Profile Area identifies one or more TNI Profile Data Sources where the associated Profile Methodology (the algorithm calculating the NSLP) is applied.

The general information provided about each Profile Area is outlined in the table below:

Field	Description
Profile Area Name	A unique identifier for this Profile Area record.
Start Date	The Start Date from when the Profile Area took effect.
End Date	The end date at where the record ceased to take effect. If this is 31-Dec-9999, then the Profile Area is still active and is active in the future.
Jurisdiction	The jurisdiction where this Profile Area applies.

The specific information about each TNI that defines the Profile Area is described in the table that follows:

Field	Description
TNI	The four-character code and description that identifies this TNI.
TNI Start Date	It is the date from which this TNI contributed to the definition of the Profile Area.
TNI End Date	It is the date when this TNI ceased to be part of the definition of the Profile Area. If this TNI is still part of the definition of the Profile Area, this will be 31-Dec-9999.
Profile Name	If there is a Profile Name here, it is the name of the profile used in calculating the wholesale Energy at that TNI, where an NSLP is to be calculated. If there is no Profile Name, there is no calculation of NLSP where this TNI is located or no wholesale Metering at the TNI (That is, it is a virtual TNI).

For details on viewing Profile Areas, see [Guide to MSATS Web Portal](#).

Profile data source

Profile Data Sources define the NMI Datastreams from which a Profile receives its profiling or Metering Data. Each Profile Data Source contains a list of NMI Datastreams making up the profile and weighting (where each Datastream contributes to the total).

These are the Interval Datastreams used to calculate the Profile Shape for a non-interval Meter's data from actual Interval Meters, Profile Shape data from the Profile Preparation Service (PPS), or a combination of both.

Authorised users can view details of each Profile Data Source by selecting the Profile Data Source menu option. For more information on menu options and viewing profile data source, see [Guide to MSATS Web Portal](#).

Profile methodologies

The Profile Methodology uses an algorithm to determine which data is extracted from the Profile Data Source to calculate values for the settlement's missing data. It defines the Season and Day types for a Profile. Every Datastream is associated with a Profile Type:

- Interval Meters are associated with their historical data.
- Non-Interval Meters are either NSLP or another profile.

The Profile Methodology defines what data is to be extracted from the Data Source to be applied to consumption data.

It defines the season/day types to be used for a profile. Authorised users can view details of each Profile Methodology by selecting the Profile Methodology menu option. For more information on menu options and viewing profile methodologies, see [Guide to MSATS Web Portal](#).

Profile names

A Profile Name associates a Profile Data Source with a Methodology and applies it to one or more Profile Areas.

A Profile Name is a relationship between several attributes defining:

- The name of the profile.
- The period or a Start Date the profile is valid.
- The data used to calculate the Profile Shape.
- A Methodology that defines how Interval data is estimated when no Interval Metering Data exists.
- It applies to one or more Profile Areas.

A Profile Name is then stored against each NMI Datastream in CATS, thus defining which set of Rules is used to determine the Interval Metering Data for each non-interval Datastream.

Authorised users will have the ability to view each Profile Name's details by selecting the Profile Name menu option.

For more information on menu options and viewing profile names, see [Guide to MSATS Web Portal](#).

Chapter 5. Metering Data

The wholesale electricity market in Australia is settled in every five minutes. Many Contestable Customers (and some of the newer Residential Customers) may have what is termed an Interval Meter installed at their Site (or Connection Point). Interval Meters automatically record the consumption of Energy for a given interval (e.g. five minutes). The Metering Data recorded is then read manually on-site or read remotely using a communications network.

A Metering Data Provider (MDP) then has the responsibility of Loading the collected Metering Data into MSATS.

For most Connection Points within the domestic market, electricity consumption is monitored using Basic Meters. These Meters record the accumulated quantity of electricity flowing through a power conductor. It is, therefore, impossible to accurately capture the pattern of electricity consumption across any given half-hour interval.

Metering Providers (MP) manually read these Basic Meters based on a 1, 2, or 3-monthly cycle. (The Metering Provider responsible for reading an NMI's Meter is the Participant in CATS identified in the MPC Role (the Metering Provider Category C)). The reads taken by the MPC are then Loaded into MSATS by the Participant acting in the MDP (Metering Data Provider) Role.

These Basic Meter Readings have to be broken down into the same half-hourly units that the market is settled on for Market settlement purposes. This ensures that Energy Retailers can reconcile with the domestic market.

Metering data

Metering Data delivered to AEMO must conform to the Meter Data File Format (MDFF) Specification (MDFF NEM12 and NEM13).

For more details, see
[MDM File Format and Load Process and Meter Data File Format Specification NEM12 & NEM13.](#)

CSVConsumptionData is used to Load Metering Data from Consumption (Basic) Meters.

CSVIntervalData is used to Load Metering Data from Interval Meters or Unmetered Metering Installations.

Metering data providers

Metering Data Providers (MDP) Load collected Metering Data into MSATS. The data covers full trading weeks or smaller amounts of data and revisions. The minimum requirement for a Meter Data Notification to MSATS is one Day of Metering Data.

The MDP responsible for reading an NMI's Meter is the MPC Role (Category C MDP) identified in MSATS. The reads taken by the MPC are submitted to MSATS by the Participant acting in the MDP Role in the form of csv-wrapped aseXML files. For details about the creation and submission of these files, see [MDM File Format and Load Process](#).

MDPs are required to provide either estimated or actual data for each of the Datastreams requiring settlement. As a last resort, MSATS calculates Estimated Metering Data for all Datastreams where MDPs did not provide data.

Chapter 6. Settlement Data Scenarios and Settlement Data Cases

Settlement Data Scenarios are the templates that define the Rules for running specific Settlement Data Cases are the specific runs required for a given Settlement period. They produce Settlements Ready Data for the Wholesale Market Management System.

Settlement Data Cases. When each new Settlement Data Case created, the scenario type has to be selected.

This module aims to define the generic data characteristics that relate to a given settlement-data scenario.

The key Parameters of a Settlement Data Scenario are:

- Scenario Name
- Settlement Data Scenario Type
- Profile Freeze Days

For details on viewing settlement scenarios, see [Guide to MSATS Web Portal](#).

For information on Settlement Statements, see [Guide to NEM Retails B2M APIs](#).

Settlement data cases

Settlement Data Cases are the specific runs required for a given Settlement period. They produce Settlements Ready Data for the Wholesale Market Management System.

Uncommitted settlement data cases

The Uncommitted Data Cases screen provides a view of settlement data cases that have not been committed.

For details on viewing uncommitted settlement data cases, see [Guide to MSATS Web Portal](#).

Committed data cases

The Committed Data Cases screen allows the user to view cases that are pending, running, or finished.

The following fields are displayed for each Committed Data Case in the Committed Settlement Data - List screen:

Field	Description
Case Identifier	A unique identifier for the settlement data case.
Start Date	The start of the Settlement Case Period. That is the first date for which data will be included for settlement processing.
End Date	The end date for the Settlement Case Period. Settlement data related to dates up to this date will be included in the Settlement Case.
Scheduled Date Time	The date-time that the specific Settlement Data Case will be run or was scheduled to run.
As-at Datetime	Date and time for which data snapshot will be considered for the settlement run.

The [View Action](#) hyperlink allows a user to view details of a case. This is the only option available to Participant Users. Selecting VIEW provides the same view of the settlement case as that you see if you choose View from the [Uncommitted Settlement Data Cases – List screen](#).

Terms

For a list of terms used throughout this guide, see:

- [Retail Electricity Market Procedures – Glossary and Framework](#)
- [Guide to MSATS and B2B Terms](#)

Rules terms

AEMC	Interconnector	Time
AEMO	Interval Metering Data	Trading Interval
B2B Procedures	Load	Transaction
Business Day	Local Network Service Provider	Transmission
Contestable	Local Retailer	
Customer	Market	
Day	Meter	
Distribution	Metrology Procedure	
Embedded Network	Publish	
Energy	Retailer	
Enquiry	Retail Customer	
Estimated Metering Data	RoLR	
Financially Responsible	Settlements	
Generated	Supply	
Generator		

Needing Help

Support hub

For non-urgent issues, normal coverage is 8:00 AM to 6:00 PM on weekdays, Australian Eastern Standard Time (AEST).

IT assistance is Requested through one of the following Methods:

- Phone: 1300 AEMO 00 (1300 236 600)
- [Contact Us](#) form on AEMO's website

AEMO recommends participants call AEMO's Support Hub for all urgent issues.

Information to provide

Please provide the following information when requesting IT assistance from AEMO:

- Your name
- Organisation name
- Participant ID
- System or application name
- Environment: Production or Pre-production
- Problem description
- Screenshots

References

You can find the following resources on [AEMO website](#):

Guide to Information Systems: Provides guidance for Registered Participants and interested parties about AEMO's participant electricity Market systems.

Guide to MSATS and B2B Terms: Assists readers to understand the terms used in the Retail Electricity Market Procedures and the Market Settlement and Transfer Solution (MSATS).

Guide to MSATS Reports: Explains MSATS reports and their data.

Guide to MSATS Web Portal: Helps using the Market Settlement and Transfer Solution (MSATS) Web Portal.

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

Guide to User Rights Management: Explains the user Rights management functions in AEMO's Market Systems.

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

Meter Data File Format Specification NEM12 & NEM13: specifies the Meter Data File Format (MDFF) used by MDPs for the provision of Metering Data.

MSATS Ombudsman Enquiry User Interface Guide: Provides guidance for using the MSATS Ombudsman Enquiry system.

Guide to MSATS Participant Batcher Software: Covers the setup and use of the MSATS Participant Batcher software.

Retail Electricity Market Glossary and Framework: assist participants of the Retail Electricity Market to understand the overall framework. It also contains a list of terms used in the Retail Electricity Market Procedures and a full list of NEM procedures, guidelines, and documents.

Index

A

API e-Hub, 11

C

Committed Data Cases, 27
CSVConsumptionData, 24
CSVIntervalData, 24

D

Deemed profiles, 19

E

eMDM functionality, 10
eMDM functionality and interfaces, 12
eMDM participant interfaces, 11
eMDM retail and Metering Roles, 10
Estimating gaps in Interval Metering Data, 16
Externally Generated profiles, 18

F

File Interface, 11
File upload, 11

I

Information to provide, 29
Inputs accepted by eMDM, 10
Internally Generated (non-NSLP) profiles, 18

M

Metering Data, 12
MSATS Web Portal, 11

N

Net System Load Profiles, 17

P

Participant File Server, 11
Profile application for accumulation (basic) meters, 17
Profile Area, 20
Profile configuration, 20
Profile creation and approval, 19
Profile data source, 21
profile information, 12
Profile Methodologies, 22
Profile names, 22
Profile preparation, 12
Profile types, 17
Proxy Day profiles, 19

S

Settlement data, 12

U

Uncommitted Settlement Data Cases, 27