

*This version of WEM Procedure: Meter Data Submissions (Pre-Amended Procedure) was superseded on 1 October 2023. Please refer to the WEM Website (<https://www.aemo.com.au/energy-systems/electricity/wholesale-electricity-market-wem/procedures-policies-and-guides/procedures>) for the current version of the WEM Procedure (Post-Amended Procedure).*

*This document remains published for the purposes of Settlement processes and should be used for processes pertaining to the Trading Weeks up to and excluding 1 October 2023 only. Each Rule Participant must perform all obligations imposed on that Rule Participant under the Pre-Amended Procedure, arising in relation to each Trading Week up to but excluding 1 October 2023, that, if the Pre-Amended Procedure was in force, the Rule Participant would have been required to perform under the Pre-Amended Procedure.*

# MARKET PROCEDURE: METER DATA SUBMISSIONS

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## VERSION RELEASE HISTORY

Version	Effective Date	Summary of Changes
1.0	12 September 2006	Market Procedure for Meter Data Submissions as at Market Start
2.0	1 October 2009	Amendments to Market Procedure resulting from PC_2009_08
3.0	30 November 2015	Changes resulting from the transfer of functions from the IMO to AEMO

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## CHAPTER 1. METER DATA SUBMISSIONS PROCEDURE

The Market Procedure for Meter Data Submissions (Procedure) covers the process by which a Metering Data Agent submits meter data to the Australian Energy Market Operator (AEMO), including the timing and format of submissions.

### 1.1. Relationship with the Market Rules

- 1.1.1. This Procedure has been developed in accordance with, and should be read in conjunction with clause 8.6.2 of the Wholesale Electricity Market (WEM) Rules (Market Rules)
- 1.1.2. Reference to particular Market Rules within the Procedure in bold and square brackets **[MR XX]** are current as of 10 July 2009. These references are included for convenience only, and are not part of this Procedure.

### 1.2. Interpretation

- 1.2.1. In this Procedure, unless the contrary intention is expressed:
- (a) Terms used in this Procedure have the same meaning as those given in the Market Rules (made pursuant to the Electricity Industry WEM Regulations 2004);
  - (b) Where this Procedure is contrary to or inconsistent with the Market Rules, the Market Rules shall prevail to the extent of the inconsistency;
  - (c) A reference to the Market Rules or Market Procedures includes any associated forms required or contemplated by the Market Rules or Market Procedures;
  - (d) Words expressed in the singular include the plural or vice versa; and
  - (e) The following terms have the following meanings:

**Table 1 Glossary**

Term	Definition
Business Hour	means the hours of 8.00am to 5.00pm on a Business Day
kW	means kilowatt
kWh	means kilowatt-hour
Energy Data	is as defined in the Metering Code
Metering Code	means the Electricity Industry Metering Code 2005 made pursuant to the Electricity Industry Act 2004
Metering Point	has the meaning given in the Metering Code
Metering Protocol	is the Electricity Industry Metering Code 2005 and associated documents
Notify	is as defined in Part 7 of the Metering Code
Reading Day	is the day the meter at a Metering Point was read

### 1.3. Purpose

- 1.3.1. The purpose of this Procedure is to:
- (a) outline who is a Metering Data Agent (and who is therefore required to provide metering data to AEMO);
  - (b) describe the process for providing metering data to AEMO; and

- (c) provide the format both for interval meter data and for information relating to non-interval or accumulation meters.

1.3.2. Much of the metering regime will be addressed outside of the Market Rules, as the metering regime must address rules for providing metering data to all Market Participants. Therefore, the Market Rules focus on who must provide metering data and the format for submitting that data.

## 1.4. Overview of Meter Data Submissions

- 1.4.1. A Metering Data Agent is required by the Metering Code to maintain a Meter Registry specifying which Market Participant corresponds to each meter and to provide metering data to AEMO for settlement purposes.
- 1.4.2. The Metering Data Agent provides Energy Data to AEMO once each Business Day by 5.00pm. Data delivered will include the Energy Data received since the last data provision to the AEMO, together with any updates to metering data already provided for the current or previous Trading Month or Months.
- 1.4.3. The Metering Data Agent is bound by provisions of the Metering Code that requires the Energy Data to be sent by 5.00pm on the Business Day following receipt of the data, or by 5.00pm on the second Business Day if the reading fails validation.
- 1.4.4. Each meter reading is sent only once unless queried, updated or replaced.
- 1.4.5. Data transfers and timings in the Metering Code refer only to Business Days. Thus, the latest day by which Energy Data will be provided on Business Days is as follows:

**Table 2 Energy Data provided by Business Days**

By this day	The following Energy Data will be provided
Monday	<ul style="list-style-type: none"> <li>Validated readings for Friday and prior days;</li> <li>Late readings/ estimates/ defaults for Thursday;</li> <li>Updates for other days.</li> </ul>
Tuesday	<ul style="list-style-type: none"> <li>Validated readings for Monday, Saturday, Sunday and prior days;</li> <li>Late readings/ estimates/ defaults for Friday;</li> <li>Updates for other days</li> </ul>
Wednesday	<ul style="list-style-type: none"> <li>Validated readings for Tuesday and prior days;</li> <li>Late readings/ estimates/ defaults for Saturday, Sunday, Monday;</li> <li>Updates for other days</li> </ul>
Thursday	<ul style="list-style-type: none"> <li>Validated readings for Wednesday and prior days;</li> <li>Late readings/ estimates/ defaults for Tuesday;</li> <li>Updates for other days</li> </ul>

By this day	The following Energy Data will be provided
Friday	<ul style="list-style-type: none"> <li>Validated readings for Thursday and prior days;</li> <li>Late readings/ estimates/ defaults for Wednesday;</li> <li>Updates for other days</li> </ul>
Saturday	Nothing
Sunday	Nothing

1.4.6. In practice, a Metering Data Agent can send the information through earlier than outlined in the above table and it is anticipated that Energy Data will be sent on the day that it becomes available.

1.4.7. **Note:** Each Metering Data Agent must operate according to the requirements of the Metering Code. For the purpose of this Procedure, the Metering Protocol is defined as the Metering Code, which details the arrangement between the Metering Data Agent and the Market Participants to whom it provides the service. While the basic requirements for a Metering Protocol are outlined in the Market Rules **[MR 8.7]**, the Metering Code is a considerably more detailed document in its definitions of metering and meter data provision to the market. The Metering Code also has supporting documents in the Generic Metering Code Model Service Level Agreement, Metering Code Communications Rules and The Metering Code Metrology Procedure.

## 1.5. Summary of Interaction between Metering Data Agent and AEMO

1.5.1. Table 3 outlines the interaction between the Metering Data Agent and AEMO. For the purpose of Table 3, MDA refers to the Metering Data Agent.

**Table 3 Interaction between Metering Data Agent and AEMO**

Action	By Whom	When
<b>Meter Data Submissions</b>		
Submit meter data and any adjustments	MDA	Data which passes validation is sent by 5pm on the Business Day it became available to the MDA; data which fails validation will be sent no later than 5pm on the second Business Day after it became available to the MDA.
Receive Data and Provide Confirmation	AEMO/Auto Response	Within one Business Hour of receipt
Receive Confirmation	MDA	Within one Business Hour of submission
If no confirmation received, contact AEMO	MDA	By 11am on next Business Day

Action	By Whom	When
If contacted by MDA regarding non-confirmation, determine if submission received and: <ul style="list-style-type: none"> <li>– Provide confirmation; or</li> <li>– Make alternate arrangements for submission with MDA</li> </ul>	AEMO	As soon as practicable
<b>Changes to Metering Arrangements</b>		
Provide any changes to identity of Market Participant whose supply/consumption is measured by meter	MDA	At least three Business Days prior to the transfer that effects the change. (Please refer to the note provided below this table.)
<b>Notices of Disagreement or Dispute</b>		
Provide MDA with notification of Notice of Disagreement or Notice of Dispute. In addition, for Notice of Disagreement: <ul style="list-style-type: none"> <li>– Request information; and</li> <li>– Provide time and date for response that is within 60 days of date notice confirmed</li> </ul>	AEMO	Within five days of confirming notice
Receive Notification and acknowledge receipt, as required	MDA	
Respond to Notification per Metering Code. In addition, for Notice of Disagreement: <ul style="list-style-type: none"> <li>– Investigate and Respond</li> </ul>	MDA	By date specified by AEMO
Correct Energy Data, if applicable	MDA	As soon as practicable
<b>Support Calculations</b>		
Request meter information	AEMO	
Provide requested information	MDA	Within five Business Days of the request
Provide information relating to non-interval or accumulation meters	MDA	Interval Meter Deadline. The first Business Day of the second month following the month in which the Trading Month commenced.

- 1.5.2. **Note:** The Market Rules currently specify that AEMO must be notified of changes to metering arrangements no later than ten Business Days prior to any submission pertaining to the metering point under consideration **[MR 8.3.5]**. This was intended to reflect the later deadline of the Market Rules, not the stricter Metering Code provisions; that is, the intent is that metering arrangement changes must be notified in advance of the settlement calculations that use data for affected metering points. This deadline has been used in anticipation of a Market Rules change to support it.

## 1.6. Metering Data Agents

- 1.6.1. A Metering Data Agent is required for each Network. A Metering Data Agent must keep an updated Meter Registry and provide metering data to the AEMO [MR 8.2].
- 1.6.2. Generally, the Network Operator will also be the Metering Data Agent for any Network registered by it. However, a Network Operator can choose not to fulfil this function by notifying the AEMO and the Electricity Networks Corporation. Any such notification must be in writing, by email or facsimile, to the following:
- (a) AEMO:
    - (i) as outlined in Notices and Communications Procedure
  - (b) The Electricity Networks Corporation:
    - (i) Email: [andrew.wood@westernpower.com.au](mailto:andrew.wood@westernpower.com.au)
    - (ii) Facsimile: +61 (0) 8 9359 7594
- 1.6.3. The Electricity Networks Corporation will then become the Metering Data Agent for that Network. The Electricity Networks Corporation is to advise the AEMO and the Network Operator, in writing, of the effective date at which it will become the Metering Data Agent for the relevant Network.

## 1.7. Procedure Steps to be followed by the Metering Data Agent submitting meter data

### Meter Data Submission

- 1.7.1. As soon as the relevant data becomes available, but no later than 5.00pm on the first Business Day of the second month following the month in which the Trading Month commenced, a Metering Data Agent must ensure that Meter Data Submissions in respect of the meter data for all interval read meters for the Trading Month are complete for that month. Meter Data Submissions must also include any adjustments in relation to meter data for interval read meters previously submitted. Metering Data Agents must provide AEMO with accumulation or non-interval meter information.
- 1.7.2. A Metering Data Agent will be providing meter data to AEMO on a daily basis. The “first Business Day of the second month following the month in which the Trading Month commenced” represents a deadline by which meter data (actual or estimated) for the Trading Month is required to have been provided.

### Format and Method of Submission

- 1.7.3. The format of a Meter Data Submission must be in accordance with clause 8.6 of the Market Rules and is outlined in Section 1.9 and 1.10 of this Procedure. A Meter Data Submission must be made using the Wholesale Electricity Market System (WEMS) [MR 8.4.3].

### Confirmation

- 1.7.4. If a Metering Data Agent has not received confirmation from AEMO of receipt of a Meter Data Submission by 11.00am on the next Business Day, the Metering Data Agent must contact AEMO by telephone [MR 8.4.5]. It may be necessary to make alternate arrangements to submit the data.



## Changes to Metering Arrangements

- 1.7.5. Where changes have occurred to the identities of Market Participants whose supply or consumption is measured by a meter for which a Metering Data Agent is responsible, the Metering Data Agent must notify AEMO of any changed metering arrangements. This notification must occur at least three Business Days prior to deadline stated in the Market Rules for a metering point that is affected by the changed metering arrangements.

## Notices of Disagreement or Notices of Dispute

- 1.7.6. If a Metering Data Agent receives notification from AEMO of a Notice of Disagreement or Notice of Dispute that relates to the meter data for which a Metering Data Agent is responsible, the Metering Data Agent must:
- (a) respond to the notice in accordance with the Metering Code; and
  - (b) following any correction of meter data, include the revised data in its next Meter Data Submission **[MR 8.5.2]**.
- 1.7.7. For a Notice of Disagreement, in addition to the requirements in Step 1.8.4 of this Procedure, a Metering Data Agent must also:
- (a) investigate the accuracy of the item in question; and
  - (b) provide a response to AEMO within the time and date specified by AEMO, including:
    - (i) a report on the actions taken to investigate the accuracy of the item; and
    - (ii) if applicable, a revised value for the item in question that the Metering Data Agent considers to be in compliance with the Market Rules and the Metering Code **[MR 9.20.5]**.
- 1.7.8. These requirements are in addition to the requirements under **[MR 9.21]** and **[MR 2.19]** in relation to Notices of Dispute.

## Support Calculations

- 1.7.9. If AEMO notifies a Metering Data Agent of a request, in accordance with the Metering Code communication rules, for any meter information held by the Metering Data Agent, the Metering Data Agent must provide the requested information to AEMO within five Business Days **[MR 8.8.1]**.
- 1.7.10. Where changes have occurred in the Standing Data relating to a meter, the Metering Data Agent will provide AEMO with updated information within 24 hours of the change.

## 1.8. Procedure Steps to be followed by AEMO

- 1.8.1. Receipt of Meter Data Submission: Upon receipt of a Meter Data Submission, the WEMS will generate an automated confirmation **[MR 8.4.4]**.
- 1.8.2. Non-receipt of Meter Data Submission: In the event that AEMO receives notification from a Metering Data Agent that a Meter Data Submission was made using the WEMS but that the Metering Data Agent did not receive a confirmation, AEMO will determine whether the Submission has been received and:
- (i) if it has, issue a confirmation; and

- (ii) if the AEMO has no record of the submission, AEMO will use its best endeavours to determine the failure in the process and, where necessary, may make alternative arrangements for the submission of the meter data.

### Changes to Metering Arrangements

- 1.8.3. Where AEMO has received notification from a Metering Data Agent of changed metering arrangements for which the Metering Data Agent is responsible, the WEMS will generate an automated confirmation of receipt within one Business Day of receiving the meter data **[MR 8.3.6]**.

### Notices of Disagreement and Notices of Dispute

- 1.8.4. AEMO must notify a Metering Data Agent of any Notice of Disagreement or Notice of Dispute that AEMO receives in relation to meter data for which the Metering Data Agent is responsible. This notification will be no later than five Business Days after AEMO confirms receipt of the Notice with the lodging party **[MR 8.5.1]**.
- 1.8.5. For a Notice of Disagreement, in addition to Step 1.8.4 above, AEMO will also:
- (i) notify the Metering Data Agent of a time and date by which AEMO requires the Metering Data Agent to provide AEMO with a response to the Notice of Disagreement. The date will be no later than 60 days after AEMO confirmed receipt of the Notice with the lodging party; and
  - (ii) require the Metering Data Agent to investigate the accuracy of the item in question and provide a response by the specified time and date **[MR 9.20.5]**.
- 1.8.6. These requirements are in addition to the requirements in relation to Notices of Disagreement **[MR 9.20]** and in relation to Notices of Dispute **[MR 9.21]** and **[MR 2.19]**.

## 1.9. Format of Meter Data Submissions – Interval Meter Data

- 1.9.1. In developing and submitting a Meter Data Submission for interval meter data via the WEMS, a Metering Data Agent will provide the following data in either the NEM 12 (for interval data) or NEM 13 (for basic data) format<sup>1</sup> **[MR 8.6.1]**:
- (a) the identity of the Metering Data Agent;
  - (b) the Reading Day to which the meter data relates;
  - (c) for each interval meter and each Trading Interval in the Trading Month:
    - (i) the identity of the meter – AEMO will already have the information for the Market Participant associated with each meter due to registration data, and standing data update notifications;
    - (ii) the kWh quantity measured by the relevant meter; and
    - (iii) whether the kWh quantity in (ii) is based on an actual meter reading or an estimate or substitute, including the applicable code describing the reason for the estimate or substitute Node;
  - (d) any meter adjustments stemming from actual meter data becoming available, which must include:
    - (i) the Reading Day to which the adjustment applies;

<sup>1</sup> See National Electricity Market Management Company Limited Metering Data File Format [Specification](#) and [Clarifications](#).

- (ii) the interval meter and each Trading Interval for which changes have resulted; and
  - (iii) the kWh quantity for the meter;
- (e) any meter adjustments stemming from the resolution of a dispute in relation to meter data, which must include:
  - (i) the Reading Day to which the adjustment applies;
  - (ii) the interval meter and each Trading Interval for which changes have resulted;
  - (iii) the kWh quantity for the meter; and
  - (iv) whether the quantity is based on an actual meter reading or an estimate, including the applicable code describing the reason for the estimate.

## 1.10. Format of Meter Data Submissions – Non-interval or Accumulation Meter Information

1.10.1. When submitting a Meter Data Submission for non-interval or accumulation meter information via the WEMS, a Metering Data Agent will provide a file in CSV format in which each line consists of the following fields separated by commas **[MR 8.6.1]**:

- (a) date (yyyymmdd) – the first day of the Trading Month to which the information relates;
- (b) existing meters (integer) – the number of non-interval or accumulation meters that existed at the end of the Trading Month to which the information relates;
- (c) new meters (integer) – the number of new non-interval or accumulation meters connected during the Trading Month to which the information relates; and
- (d) abolished meters (integer) – the number of non-interval or accumulation meters abolished during the Trading Month to which the information relates.

## 1.11. Metering Protocol Requirements

1.11.1. A Metering Data Agent must operate in accordance with the Metering Protocol, which for the purpose of this Procedure is the Metering Code. The Metering Code prescribes the following requirements **[MR 8.7.1]**:

- (a) The requirement for a Metering Data Agent to maintain a Meter Registry to track an identifying number unique to each connection point, the location of the meter and the Market Participant, if any, associated with the meter Node. In addition, section 8.3 of the Market Rules outlines the requirements for maintaining a Meter Registry, including requirements:
  - (i) for confirmation of Meter Registry Information during facility registration;
  - (ii) to adjust the Registry on notification from AEMO that a facility has been registered or deregistered; and
  - (iii) to notify AEMO of changes to metering arrangements;
- (b) The recording of interval meter data, for publishing to the market, will be for a 30-minute period starting on the hour and on the half-hour;
- (c) The process for estimating data in accordance with the Metering Code Metrology Procedure;
- (d) The process for addressing any metering data errors arising from errors in meter reading, failure to read a meter, any otherwise missing meter data and falsification;

- (e) A dispute resolution process as pertains to any actions taken in adherence with the Metering Code or the Market Rules; and
- (f) Modification of the Metering Code, including in the event of Market Rules changes.

1.11.2. The Market Rules provide only for the minimum requirements for a Metering Protocol. The Metering Code is a more detailed description of metering and Meter Data Submissions, including requirements such as check metering, access and auditing of information, metering location.