

# SEM Programme

<b>Title</b>	SEM-MDP Meter Data Format
<b>Version</b>	1.4
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<b>Author</b>	Michael Carrington, Brendan O'Sullivan

## Introduction

This document describes the file format to be used in exchanging data between the Meter Data Providers and the SEM systems.

## General Description of the SEM-MDP message format

The message format includes the following types of data:

1. Header details, containing the username and password and other security details from the digital certificate
2. Unit level information, including the unit name
3. Time period meter readings at a half-hourly resolution
4. Trailer details, including a checksum to verify the integrity of the file

The following principles apply to the SEM-MDP format:

- The message is formatted via XML
- Full stop is used in fractional numbers, e.g. 12.34 or 0.34.
- Negative numbers should be prefixed by a minus sign, e.g. -12.34 or -0.34.
- Numbers (for meter readings) should be expressed to a maximum of three decimal places
- Readings for generation should be positive, and for demand negative

## Data Elements Descriptions:

Column Name	Description	Required / Optional
TRANSMISSION_ID	Could be name of the data transmission or other identification of the transmission	R
PARTICIPANT_NAME	This is the name of the sender of the information	R
START_PERIOD_TIME	Start of the first Trading Period where reported metered values are measured	R
END_PERIOD_TIME	End of the last Trading Period where reported metered values are measured	R
TIME_CREATED	Creation time of the file	R
UNIT_ID	Identifier for the unit for which the meter readings relate	R
EXTERNAL_ID	Sender's identification field limited to max. 20 characters (This can hold SSAC, MPID, transmission node, etc.)	O
START_TIME	Local start time for an individual reading (an hour or half-hour value)	R
END_TIME	Local end time for an individual reading (a half-hour or hour value, a half hour after the start time)	R
MEASURED_QUANTITY	Quantity according to unit on series record. Period is used in fractional numbers, e.g. 12.34 or 0.34. Negative numbers should be prefixed by minus sign, e.g. -12.34 or -0.34.	R
QUERY_FLAG	Set to 0 normally, or 1 if the reading is the subject of a Data Query	R
READING_STATUS	This can hold details on whether it was an estimate or actual reading, check or main meter etc The meaning of "Actual" and "Estimated" will be defined later in the Grid Codes for use in the Settlement Statements.	R
TOTAL_UNIT_ROWS	Total number of Units (rows) included in the data feed	R
TOTAL_QUANTITIES	Sum of all the MEASURED_QUANTITY amounts in the file. It will be used as part of the validation of the file	R
<b>Other XML items</b>	<b>Description</b>	
<i>ROW</i>	<i>For each Units there will be a Row included in the data feed</i>	*
<i>READING</i>	<i>For each meter reading, there will be a reading entry (46, 48, or 50 in total depending on short, normal or long day) The READING num= value will correspond to the relative period in the day</i>	*

The XML representation of the data set is shown below.

```

<METER_DATA_PROVIDER_DATA_TRANSFER>
  <TRANSMISSION_ID></TRANSMISSION_ID>
  <!-- Transmission identifier-->
  <PARTICIPANT_NAME></PARTICIPANT_NAME>
  <!--Participant Name identifier (This is the Short Name)-->
  <START_PERIOD_TIME></START_PERIOD_TIME>
  <!--The 'Start Period Time' date and time stamp format is
'YYYY-MM-DDThh:mmTZD'.-->
  <END_PERIOD_TIME></END_PERIOD_TIME>
  <!--The 'End Period Time' date and time stamp format is 'YYYY-
MM-DDThh:mmTZD'.-->
  <TIME_CREATED></TIME_CREATED>
  <!--The 'Time Created' date and time stamp format is 'YYYY-MM-
DDThh:mm:ssTZD'.-->
  <ROW num="1">
    <!--One row for each unit-->
    <UNIT_ID></UNIT_ID>
    <!--Unit identifier-->
    <EXTERNAL_ID></EXTERNAL_ID>
    <!--The External identifier is an optional unit reference
that can be set by the sender of the data-->
    <READING num="1">
      <START_TIME></START_TIME>
      <!--The 'Start Time' date and time stamp format is
'YYYY-MM-DDThh:mmTZD'.-->
      <END_TIME></END_TIME>
      <!--The 'End Time' date and time stamp format is
'YYYY-MM-DDThh:mmTZD'.-->
      <MEASURED_QUANTITY></MEASURED_QUANTITY>
      <!--The Measured Quantity in MWh-->
      <QUERY_FLAG></QUERY_FLAG>
      <!--The Query Flag. Valid values are 1,0-->
      <READING_STATUS></READING_STATUS>
      <!--The Reading Status is to be set by the sender
of the data as per Meter and Grid Code-->
    </READING>
  </ROW>
  <TOTAL_UNIT_ROWS></TOTAL_UNIT_ROWS>
  <!--The Total number of Unit Rows-->
  <TOTAL_QUANTITIES></TOTAL_QUANTITIES>
  <!--The sum of all the Measured Quantity values in the file-->
</METER_DATA_PROVIDER_DATA_TRANSFER>

```