

Guide to Interpret an Interval Meter Data Report

1. Introduction

This guide has been prepared to assist you in interpreting a Summary Interval Meter Data and Detailed Interval Meter Data report prepared in accordance with the National Electricity Market (NEM) industry standard.

Each meter data report is specific to a single NMI (National Meter Identifier) including all associated meters and data streams. Customers with multiple NMIs will need to request meter data reports for each relevant NMI separately and will receive separate meter data reports.

The guide includes the following sample reports:

- Interval Meter Summary Report; and
- Interval Meter Detailed Report.

The sample reports have been prepared for a NMI with the following characteristics and covers the six month period from 1 August 2015 to 31 January 2016:

- General Supply tariff;
- Controlled Load (such as hot water heating); and
- Solar generation.

The data fields included in your detailed meter data report may differ slightly from the sample reports depending on the characteristics of your site. Where this is the case, you may find the following AEMO guides a useful reference:

<http://www.aemo.com.au/Electricity/Policies-and-Procedures/Retail-and-Metering/National-MeteringIdentifier-Procedure>

<http://www.aemo.com.au/Electricity/Retail-and-Metering/Metering-Services/Meter-Data-File-Format>

2. Interval Meter Summary Report

The Interval Meter Summary Report (summary report) provides a basic overview of your energy use. This report is intended to be less technical than the detailed report and should be easier to interpret for customers with limited understanding of the energy market.

The summary report contains three parts:

- Summary Table;
- Graph of Energy flows; and
- Graph of Average Daily Load Profiles.

Summary Table

This includes the total energy consumption and generation associated with your NMI aggregated under the categories of:

- General supply;

- Controlled Load - such as a hot water heating loads that are controlled by you relevant Distributor; and
- Generation – this may include solar or wind energy that is generated on site and exported to the grid.

The table also includes measurements of maximum demand at the site. This is expressed in Kw and is calculated using the below methodology:

- for 30 minute intervals, the highest 30 minute interval usage that occurs during each “To Date” period is multiplied by two (2); and
- for 15 minute intervals, the highest 15 minute interval usage that occurs during each “To Date” period is multiplied by four (4).

Note that the above methodology for calculating maximum demand may be different to the methodology used to calculate any applicable demand charges associated with your site.

In the case where there are multiple meters associated with your site, the data for each meter register will be displayed in sequential order. In the below example, the data for Meter Serial number 0357501 is displayed for the report period, followed by the data associated with Meter Serial Number 0361791.

Figure 1. Sample Summary Table.

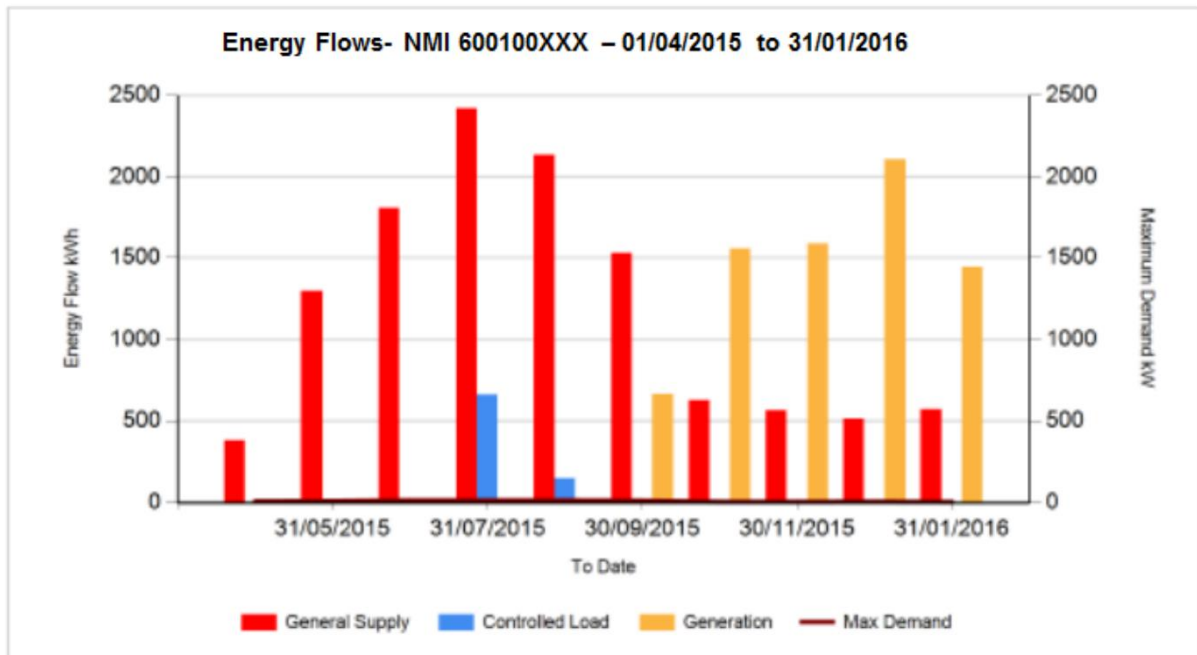
NMI	Meter Serial	Unit of Measure	From Date	To Date	General Supply	Controlled Load	Generation	Maximum Demand	Maximum Demand Unit of Measure	Includes Estimates
600100XXX	0357501	kWh	01/04/2015	30/04/2015	381.284	0.000	0.000	8.950	kW	N
600100XXX	0357501	kWh	01/05/2015	31/05/2015	1295.738	0.000	0.000	10.676	kW	N
600100XXX	0357501	kWh	01/06/2015	30/06/2015	1803.314	0.000	0.000	15.500	kW	N
600100XXX	0357501	kWh	01/07/2015	31/07/2015	2420.710	0.000	0.000	14.976	kW	N
600100XXX	0357501	kWh	01/08/2015	31/08/2015	2136.875	0.000	0.000	14.976	kW	N
600100XXX	0357501	kWh	01/09/2015	30/09/2015	1529.417	0.000	662.922	12.950	kW	N
600100XXX	0357501	kWh	01/10/2015	31/10/2015	625.754	0.000	1555.309	6.076	kW	N
600100XXX	0357501	kWh	01/11/2015	30/11/2015	564.706	0.000	1587.556	5.700	kW	N
600100XXX	0357501	kWh	01/12/2015	31/12/2015	514.059	0.000	2107.475	6.726	kW	N
600100XXX	0357501	kWh	01/01/2016	31/01/2016	571.996	0.000	1442.424	5.200	kW	N
600100XXX	0361791	kWh	01/04/2015	30/04/2015	0.000	0.000	0.000			N
600100XXX	0361791	kWh	01/05/2015	31/05/2015	0.000	0.000	0.000			N
600100XXX	0361791	kWh	01/06/2015	30/06/2015	0.000	0.000	0.000			N
600100XXX	0361791	kWh	01/07/2015	31/07/2015	0.000	660.000	0.000			N
600100XXX	0361791	kWh	01/08/2015	31/08/2015	0.000	150.000	0.000			N

Graph of Energy Flows

This graph provides a pictorial summary of the information contained in the summary table. Energy flows in Kwh are represented on the left axis and Maximum Demand (KW) is represented on the right axis.

The key at the bottom of the graph will assist you to identify energy flows associated with general supply, controlled load and generation.

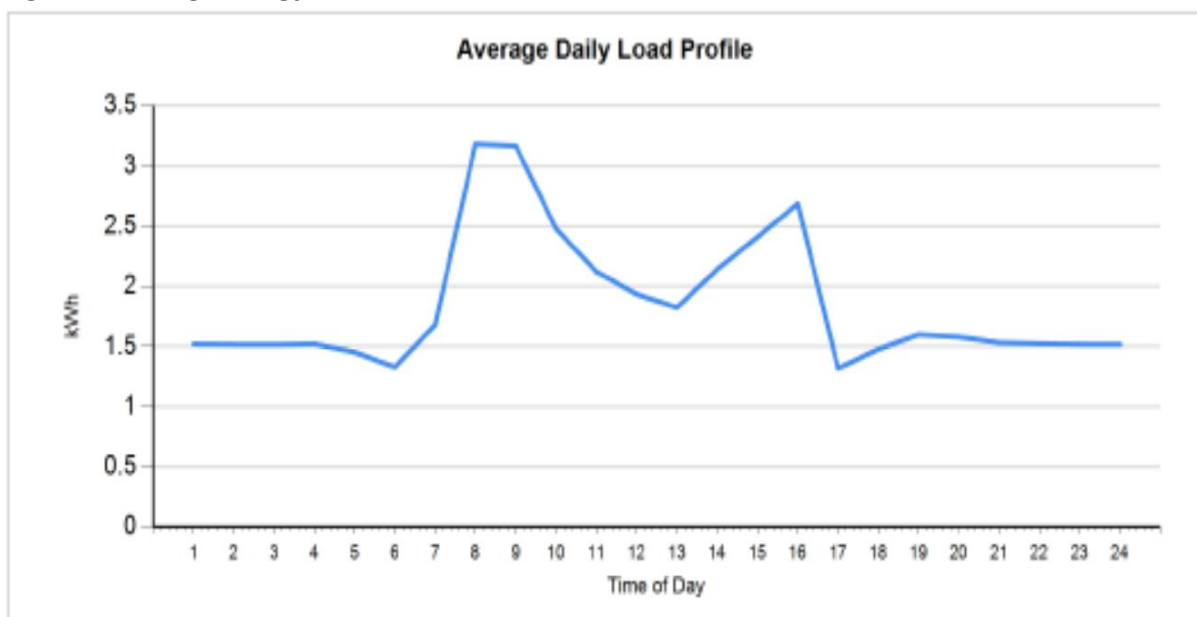
Figure 2. Energy Flows (update graph when axis is adjusted)



Average Energy Flows

This graph summarises your average daily load profile over the period. This information may assist you to identify work or living habits that result in higher than average energy usage over different times of the day. This could be particularly useful to assess the potential benefit that may arise by changing tariffs from a general supply or two rate tariff to a Time of Use Tariff. This information may also be useful if you are trying to decide what size solar system to install.

Figure 3. Average Energy Flows



3. Interval Meter Detailed Report

The Interval Meter Detailed Report (detailed report) is more complex than the summary report and contains a half hourly break down of your energy consumption and generation by meter register.

This report has been developed for retailers, third party energy solutions providers and energy users with detailed knowledge of the energy industry. This report may be difficult for someone with limited knowledge of the energy market to interpret. The detailed report is useful for detailed tariff or energy efficiency analysis.

Time Format

Data is displayed in accordance with Eastern Standard Time (EST) and any adjustments due to Daylight Savings Time (DST) must be taken into consideration if you are being billed on a time based tariff such as Time of Use. To do this, you will need to shift the data by 1 hour, forward or backwards at 2am on the date that daylight savings time changes.

NMI suffix

The field “NMI Suffix” in the below example, refers to a collection of interval data readings associated with each meter on site. This is common in the NEM and allows retailers, distributors and AEMO to identify and apply correct charges and credits according to your meter type and energy plan. For example, controlled load, domestic usage consumption and credits associated with solar generation.

Note that one meter could contain more than one NMI Suffix and more than one NMI Suffix may be needed to determine the total energy consumption at the premise.

In some cases where you have more than one meter onsite you will be required to add NMI Suffix’s together to determine the total consumption.

If you have multiple interval meters measuring your electricity consumption you may have multiple NMI Suffix’s e.g. E1, E2 and E3, to determine the total consumption, you will need to add together each corresponding interval of data (i.e. align the date and time of each interval for each NMI Suffix).

If you have a generation system at your premises you may also have a B1 NMI Suffix in the file we send you. The reading you get here will be significantly different depending on if you have a “Net” or “Gross” solar generation system.

Highlighted fields

The fields typed in blue text are used by market participants to automate data processing and may not help you interpret your data.

Interpreting the data

Figure 4 provides a sample of the structure of the detailed report. The table includes data labels that explain what data would be presented in the report rather than the actual data. Figure 5 provides a sample of the detailed report presented in an excel format. It is useful to look at this explanation and your data at the same time.

Figure 4. Guide Template – Detailed Interval Meter Data Report

100	File Type	File Creation Date & Time	Meter Data Provider	Current Retailer										
200	Your NMI	Available NMI Suffix's	Register id	NMI Suffix	Meter Serial number	Unit measured	Interval Period	Next scheduled read date						
300	Data of Data	kWh usage recorded in the interval	kWh usage recorded in the interval	kWh usage recorded in the interval	kWh usage recorded in the interval	kWh usage recorded in the interval	kWh usage recorded in the interval	kWh usage recorded in the interval						
400	Starting Interval	Ending Interval	Quality Flag	Reason Code	Reason Description									
500														
900														

Glossary of Rows

Row 100 is a header row at the start of every NEM12 file

- File Type: The File type is 'NEM12' standard industry format
- File Creation Date & Time: Time and date of file creation in format yyyymmddhhmm
- Meter Data Provider: The MSATS Participant ID of the Meter Data Provider providing meter data to Momentum
- Current Retailer: The Current Financially Responsible Retailer for the NMI (National Metering Identifier)

Row 200 is the NMI details row

- Your NMI: Your National Metering Identifier is the unique connection point at your property
- Available NMI Suffixes: The possible NMI suffixes the NMI may be configured to
- Register ID: Interval meter register identifier e.g. 1, 2, E1, B1
- NMI suffix associated to below data
- Meter number: Faceplate number on the physical meter
- Unit measured: Unit of measure
- Interval Period: Time in minutes of each interval. Usually 15 or 30
- Next scheduled read date: May not be populated for interval meters

Row 300 shows interval data. There is a 300 row of for each date in the data file. Dates are in sequential order

- Date of Data: The date for the following interval data reads. Format yyyymmdd
- kWh usage recorded in the interval: Usage inclusive of multiplier or scaling factor recorded in the interval. Interval is defined in Row 200 'Interval Period' and is commonly 15 or 30 minutes. A 30 minute interval file will have 48 columns of data each representing the sequential half hour. I.e. 00:00 to 00:30, 00:30 - 1:00 etc. A 15 minute interval file will contain 96 sequential reads.
- Data Quality Flag: Examples: A (Actual Data), E (Forward Estimated Data), F (Final Substituted Data), S (Substituted Data), V (Variable - Actual and Substituted Data)
- Reason Code: Reason for the estimation/substitution
- Reason Description: Description of the reason code
- Updated Date & Time: The latest Date and Time data was amended/updated by the meter data provider in this line 300 record. Format yyyymmhhmmss
- Upload Date & Time: The Date and Time the data was loaded to MSATS. Format yyyymmhhmmss

Row 400 displays any interval events and only appears where the Quality Flag is 'V' or 'A' for specific reason codes

- Starting Interval: The interval that the reason code and flag refer to
- Ending Interval: The last interval that the reason code and quality flag refer to
- Quality Flag: The quality flag referred to by the start and ending interval
- Reason Code: Reason for the estimation/substitution
- Reason Description: Description of the reason code

Row 400 displays any interval events and only appears where the Quality Flag is 'V' or 'A' for specific reason codes

- Transaction Code: Indicates why data is being received. 'O' denotes historical data
- Retailer Service Order: Retailer service order number if the reason for a manual read/read attempt
- Read Date & Time: Time of the actual meter reading
- Index Read: Total recorded accumulated energy data at the time of the meter read

Row 900: Indicates End of Data

Figure 5. Sample Detailed Interval Meter Report – Excel Format

	A	B	C	D	E	F	G	H	I	J	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	
1	100	NEM12	2E+11	JENMDP	MOMCOMPANY																	
2	200	6001000000	B1E1E2	E1	E1	NI	357501	KWH	30	20160208												
3	300	20150420	0.438	0.425	0.363	0.413	0.475	0.45	0.388	0.363			0.463	0.388	A						20150426044100	
4	300	20150421	0.4	0.463	0.45	0.438	0.4	0.413	0.463	0.463	Interval Data		0.45	0.413	A							20150426044100
5	500	O		2.01504E+13	18576																	
6	300	20150422	0.388	0.45	0.463	0.45	0.4	0.4	0.45	0.45			0.663	0.8	A							20150426044100
7																						
8																						
9																						
10																						
11	500	O		2.01504E+13	18602																	
574	300	20160128	0.825	0.825	0.75	0.788	0.85	0.813	0.775	0.875			0.863	0.9	A							20160129053400
575	500	O		2.01601E+13	30331																	
576	200	6001000000	B1E1E2	E2	E2	N2	361791	KWH	30	20160208												
741	300	20150710	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	Interval Data		0.625	0.625	S57	78						2015071045700
742	300	20150711	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625			0.625	0.625	S57	78						20150712054600
766																						
767																						
768																						
769																						
770	300	20150804	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625	Interval Data		0.625	0.625	S57	78						20150805054800
771	300	20150806	0.625	0.625	0.625	0.625	0.625	0.625	0.625	0.625			0.625	0.625	S57	78						20150807050400
772	200	F200	B1E1E2	B1	B1	NI	357501	KWH	30	20160208												
776	500	A	219023	2.01509E+13																		
777	300	20150905	0	0	0	0	0	0	0	0			0	0	A							20150908054200
778	500	O		2.01509E+13	3210																	
1065																						
1066																						
1067																						
1068																						
1069	300	20160127	0	0	0	0	0	0	0	0	Interval Data		0	0	A							20160128200000
1070	500	O		2.01601E+13	10501																	
1071	300	20160128	0	0	0	0	0	0	0	0			0	0	A							20160129053400
1072	500	O		2.01601E+13	10541																	
1073	900																					
1074																						