METERING DATA PROVISION PROCEDURES

STRAWMAN FOR CONSULTATION

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AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

VERSION RELEASE HISTORY

Version	Effective Date	Summary of Changes
0.1		Strawman

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1. INTRODUCTION

1.1. Purpose and scope

These are the Metering Data Provision Procedures (Procedures) made under clause 7.16 of the National Electricity Rules (NER).

These Procedures have effect only for the purposes set out in the NER. The NER and the National Electricity Law (NEL) prevail over these Procedures to the extent of any inconsistency. These Procedures relate to requirements in the National Energy Retail Rules (NERR), which are only relevant for jurisdictions participating in the National Energy Customer Framework.

These Procedures apply to retailers and Distribution Network Service Providers (DNSPs) responding to requests from a retail customer, or their customer authorised representative, for their metering data from the retail customer's metering installation made under NER clause 7.7(a)(7).

These Procedures must specify the:

- Manner and form in which the *retail customer's metering data* must be provided, including:
    - For *interval metering data*, a detailed data format and summary data format.
    - For *accumulation metering data*, a summary data format.
- Timeframes for *retailers* and *DNSPs* to respond to requests made by a:
    - *Retail customer.*
    - *Customer authorised representatives*.
- Minimum delivery method for the requested *metering data*.

These Procedures do not cover retailer and DNSP processes to comply with the *Privacy Act 1988* (Commonwealth) including processes to verify the identity of a retail customer or its customer authorised representative. It is retailers' and DNSPs' responsibility to determine what needs to be done to ensure their *Privacy Act 1988* (Commonwealth) obligations have been met.[1]

Throughout these Procedures, terms used in the NER – such as *retail customer* – are italicised.

1.2. Definitions and interpretation

1.2.1. Glossary

The words, phrases and abbreviations set out in the table below, when used in these Procedures, have the meanings set out opposite them.

Terms defined in the NEL or the NER have the same meanings in these Procedures unless otherwise specified in this clause. Those terms are intended to be identified in these Procedures by italicising them, but failure to italicise a defined term does not affect its meaning.

Term	Definition
Accumulation metering data - summary data	This includes: Total energy volume for each energy flow type for the specified time period. Each meter reading date and index read for each energy flow type for the specified period of time. Start Date and End Date for the specified time period
Daily time periods	Time periods during a day when different usage rates are applied to energy consumption
Energy flow type	Energy flow for which there is a separate energy measurement or a separate usage rate
Energy volume or demand	The energy volume or demand measured over a period of time for each energy flow type.
Extent of energy usage	See energy volume or demand

[1] For further information on the *Privacy Act 1988* (Commonwealth) refer to: http://www.comlaw.gov.au.

Term	Definition
Interval metering data - summary data	This includes: Total energy volumes for each energy flow type for the specified time period. Diagrammatic representation of daily energy volumes for each energy flow type for the specified time period. Start Date and End Date for the specified time period
Interval metering data – detailed data	This includes: 48 (or 96) interval values for each energy flow type for each day of the specified time period. Start Date and End Date for the specified time period
Load profile	A graph showing a retail customers energy consumption over the time period as requested by the retail customer or customer authorised representative. This is provided: Monthly for interval metering data Quarterly for accumulation metering data
Nature	See energy flow type
Off-peak	A time period during a day when an off-peak usage rate is applied to energy consumption
Peak	A time period during a day when a peak usage rate is applied to energy consumption
Shoulder	A time period during a day when a shoulder usage rate is applied to energy consumption
UOM	Unit of Measure

1.2.2. Interpretation

The following principles of interpretation apply to these Procedures unless otherwise expressly indicated:

- These Procedures are subject to the principles of interpretation set out in Schedule 2 of the NEL.
- References to time are references to *Eastern Standard Time*.

1.3. Related AEMO procedures

Stakeholders can find additional relevant information in these documents, which are available on AEMO's website[2]:

- Standing Data for MSATS.
- Metering Data File Format Specification NEM12 & NEM13.
- National Metering Identifier Procedure.

2. OBJECTIVE

The objective of these Procedures is to establish the minimum requirements for the manner and form in which retailers or DNSPs must provide *metering data* to a *retail customer*, or their *customer authorised representative*, in response to a request for *metering data* from the *retail customer* or *customer authorised representative*.

[2] http://www.aemo.com.au.

3. DATA FORMATS

3.1. General National Energy Retail Rules (NERR) requirements

(a) Under clauses 56A and 86A of the NERR, following a *retail customer* or *customer authorised representative's* request, a *retailer* or *DNSP*:

I. Must provide up to two years information about that *retail customer's energy* consumption
II. Must provide this information without charge for up to four requests in any 12-month period. Thereafter the *retailer* and *DNSP* can charge a reasonable fee
III. May charge a reasonable charge if the information has been requested:
   a. More than four times in the 12-month period
   b. In a different manner or form than the Procedures specify
   c. By a customer authorised representative as a part of a request for information about more than one small customer (or customer).[3]

(b) Where a *retail customer* has been with a *retailer* for less than two years, a *retail customer* or *customer authorised representative* may request their *metering data* from a previous *retailer*. The *retailer* must provide the requested information and can charge a reasonable fee for providing the service.

3.2. Field details – format and unit of measure

Data fields must use these permitted values. Note that the permitted values for unit of measure are not case sensitive.

Permitted values	Description	Format	Character length
MWh	Megawatt hour	Numeric	15.6
kWh	Kilowatt hour	Numeric	15.3
MW	Megawatt	Numeric	15.6
kW	Kilowatt	Numeric	15.3
MVA	Megavolt ampere	Numeric	15.6
kVA	Kilovolt ampere	Numeric	15.3

3.3. Summary data format

The summary data format for *interval* and *accumulation metering data* must include the following information:

I. National Metering Identifier *(NMI)*
II. Meter Serial Number
III. Unit of Measure (UOM) for the Energy Flow Type
IV. Data quality indication
V. Read Date, monthly for *interval metering data* or when read for *accumulation metering data*
VI. Energy Flow Types:
   A. Peak
   B. Shoulder, Off-Peak, Controlled Load and/or Generation (only if applicable).

Conditions that apply to all summary data files are:

I. File must be based on validated *metering data.*
II. File must not contain any blank rows or columns.

[3] Small customer and customer are NERR defined terms. The NERR can be found at: http//:aemc.gov.au.

III. File ordered by Date – oldest date at the top of the file and most recent date at the bottom of the file.

3.3.1. Accumulation metering data summary format

The *accumulation metering data* summary must, at minimum, include:

I. The nature and extent of energy usage.

II. A diagrammatic representation of the usage information.

Appendix A contains the *accumulation metering data* summary format, including the file conditions, and examples of an accumulation file and diagrammatic representation of energy usage.

3.3.2. Interval metering data summary format

The *interval metering data* summary format must, at minimum, include:

I. The nature and extent of energy usage for daily time periods
II. Usage or *load* profile over a specified period
III. A diagrammatic representation of the information.

Appendix B contains the *interval metering data* summary format, the file conditions and examples of an interval file and diagrammatic representation of energy usage.

3.4. Detailed data format

The detailed data format for *interval metering data* must include the following information:

I. *NMI*

II. Meter Serial Number

III. UOM for the Energy Flow Type

IV. Data quality indication

V. Read Date

VI. Energy Flow Types:

A. Peak

B. Shoulder, Off-Peak, Controlled Load and/or Generation (only if applicable).

Conditions that apply to all summary data files are:

I. File must be based on validated *metering data*

II. File must not contain any blank rows or columns

III. File ordered by Date – oldest date at the top of the file and most recent date at the bottom of the file.

The *interval metering data* detailed format must be provided as a horizontal format.

Appendix C contains the *interval metering data* detailed format, including the file conditions and example files.

4. DELIVERY TIMEFRAMES

Retailers and *DNSPs* must use reasonable endeavours to deliver a *retail customer's* requested *metering data* within 10 *business days*. This delivery timeframe commences from the date the request is received by the *retailer* or *DNSP*.

Where a *customer authorised representative* requests more than one retail customer's metering data, the delivery timeframe must be agreed between the *retailer* or *DNSP* and the *customer authorised representative*.

5. DELIVERY METHOD

5.1. Summary Data Format

The *retailer* or *DNSP* must provide the summary data format electronically and/or physically to the *retail customer* or *customer authorised representative*.

This must be able to be offered in a Portable Document Format (PDF) and/or Comma Separated Values (CSV) format, unless otherwise agreed with the *retail customer* or *customer authorised representative*.

Summary data formats constructed in a CSV format may be delivered as a compressed file with a ".zip" extension if needed to manage file compression.

5.2. Detailed Data Format

The *retailer* or *DNSP* must provide the detailed data format electronically to the *retail customer* or *customer authorised representative*.

This must be constructed in an CSV format, unless otherwise agreed with the *retail customer* or *customer authorised representative*.

Detailed data formats constructed in an CSV format may be delivered as a compressed file with a ".zip" extension if needed to manage file compression.

APPENDIX A. ACCUMULATION METERING DATA SUMMARY FORMAT

A.1 File conditions

File component	Parameters
File Type	PDF and/or CSV
Header Record	NMI, Meter Serial Number, UOM, Estimated?, Read Date, Peak, Shoulder, Off-Peak, Controlled Load, Generation
National Metering Identifier (NMI)	NMI for the connection point. Does not include check-digit or NMI suffix.
Meter Serial Number	Multiple meters indicated by their respective meter serial numbers. Energy values from each meter are to be collectively published by Read Date
Energy Flow Type	Peak, Shoulder, Off-Peak, Controlled Load and Generation energy flows
Energy Value	kWh value identifies the consumption for the associated Energy Flow Type Load means that energy flows to the connection point from the grid Generation means energy flows to the grid from the connection point
UOM	kWh
Read Date	The date the meter(s) were read, for an estimate (Estimated = "Y'), when the reading event should have happened. Measured in EST
To Date	The end date of the reporting period. Measured in EST
Date Format	DD/MM/YYYY
Data Quality	Metering data estimated? Y or N. Note this is the plain English use of the term estimate Field value is Y if any of the elements on the associated row have been estimated
File Order	File ordered by date. Ordered by oldest date at the top of the file and most recent date at the bottom of the file

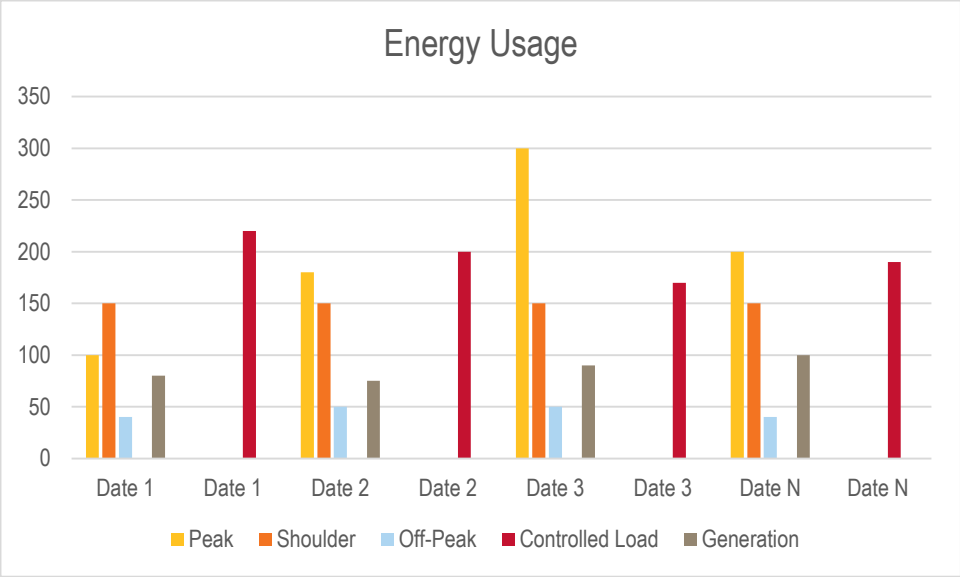
A.2 Example: accumulation file

NMI	Meter Serial Number	UOM	Estimated?	Read Date	To Date	Peak	Shoulder	Off-Peak	Controlled Load	Generation
6xxxxxxxxx	123xxxx	kWh	N	Date 1	Date 1	100	150	40	0	80
6xxxxxxxxx	456xxxx	kWh	N	Date 1	Date 1	0	0	0	220	0
6xxxxxxxxx	123xxxx	kWh	N	Date 2	Date 2	180	150	50	0	75
6xxxxxxxxx	456xxxx	kWh	N	Date 2	Date 2	0	0	0	200	0
6xxxxxxxxx	123xxxx	kWh	N	Date 3	Date 3	300	150	50	0	90

6xxxxxxxxx	456xxxx	kWh	N	Date 3	Date 3	0	0	0	170	0
6xxxxxxxxx	123xxxx	kWh	N	Date N	Date N	200	150	40	0	100
6xxxxxxxxx	456xxxx	kWh	N	Date N	Date N	0	0	0	190	0

A.3 Example: diagrammatic representation of energy usage

Note that this example does not include demand. This issue is addressed in the Metering Data Provision Procedures Consultation Paper circulated to stakeholders.



APPENDIX B. INTERVAL METERING DATA SUMMARY FORMAT

B.1 File conditions

File component	Parameters
File Type	PDF and/or CSV
Header Record	NMI, Meter Serial Number, UOM, Estimated?, Read Date, Peak, Shoulder, Off-Peak, Controlled Load, Generation, Demand, Demand UOM
National Metering Identifier (NMI)	NMI for the connection point. Does not include check-digit or NMI suffix.
Meter Serial Number	Multiple meters indicated by their respective meter serial numbers. Energy values from each meter are to be collectively published by Read Date
Energy Flow Type	Peak, Shoulder, Off-Peak, Controlled Load, Generation energy flows and Demand Time of use (Peak, Shoulder, Off-Peak) are as per the retail tariff definition
Energy Value	kWh value identifies the consumption and kW or kVA value identifies demand for the associated Energy Flow Type Summation is data between the “From Date” and “To Date” inclusive of intervals on both calendar days. Reporting period boundary is midnight EST Load means that energy flows to the connection point from the grid Generation means energy flows to the grid from the connection point
UOM	kWh (energy), kW or kVA (demand)
From Date	The start date of the reporting period. Measured in EST
To Date	Date meter(s) read The end date of the reporting period. Measured in EST
Date Format	DD/MM/YYYY
Data Quality	Metering data estimated? Y or N. Note this is the plain English use of the term estimate. Field value is Y if any of the elements on the associated row have been estimated
File Order	File ordered by date. Ordered by oldest date at the top of the file and most recent date at the bottom of the file

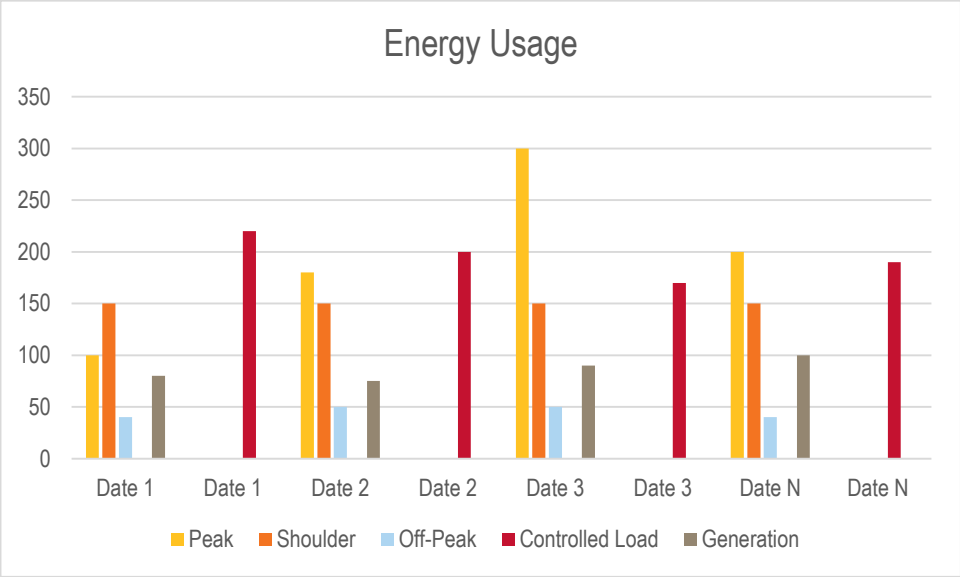
B.2 Example: interval file

NMI	Meter Serial Number	UOM	Estimated?	From Date	To Date	Peak	Shoulder	Off-Peak	Controlled Load	Generation	Actual Daily Demand	Demand UOM
6xxxxxxxxx	123xxxx	kWh	N	Date 1	Date 1	100	150	40	0	80	25	kVA
6xxxxxxxxx	456xxxx	kWh	N	Date 1	Date 1	0	0	0	220	0	0	kVA
6xxxxxxxxx	123xxxx	kWh	N	Date 2	Date 2	180	150	50	0	75	35	kVA
6xxxxxxxxx	456xxxx	kWh	N	Date 2	Date 2	0	0	0	200	0	0	kVA
6xxxxxxxxx	123xxxx	kWh	N	Date 3	Date 3	300	150	50	0	90	35	kVA

6xxxxxxxxx	456xxxx	kWh	N	Date 3	Date 3	0	0	0	170	0	0	kVA
6xxxxxxxxx	123xxxx	kWh	N	Date N	Date N	200	150	40	0	100	40	kVA
6xxxxxxxxx	456xxxx	kWh	N	Date N	Date N	0	0	0	190	0	0	kVA

B.3 Example: diagrammatic representation of energy usage

Note that this example does not include demand. This issue is addressed in the Metering Data Provision Procedures Consultation Paper circulated to stakeholders.



APPENDIX C. INTERVAL METERING DATA DETAILED FORMAT

C.1 File conditions

File component	Parameters
File Type	CSV
Header Record (30-minute interval metering data)	NMI, Meter Serial Number, Read Date, UOM, Estimated?, Energy Flow Type, Consumption Date, 00:00 - 00:30, 00:30 - 01:00, 01:00 - 01:30,01:30 - 02:00, 02:00 - 02:30, 02:30 -03:00, 03:00 - 03:30, 03:30 - 04:00, 04:00 - 04:30, 04:30 - 05:00, 05:00 - 05:30, 05:30 - 06:00, 06:00 - 06:30, 06:30 - 07:00, 07:00 - 07:30, 07:30- 08:00, 08:00 - 08:30,08:30 - 09:00,09:00 - 09:30, 09:30 - 10:00, 10:00 - 10:30, 10:30 - 11:00, 11:00 - 11:30, 11:30 - 12:00, 12:00 - 12:30, 12:30- 13:00, 13:00 - 13:30, 13:30 - 14:00, 14:00 - 14:30, 14:30 - 15:00, 15:00 - 15:30, 15:30 - 16:00, 16:00 - 16:30, 16:30 - 17:00, 17:00 - 17:30,17:30 - 18:00, 18:00 - 18:30, 18:30 - 19:00, 19:00 - 19:30, 19:30 - 20:00, 20:00 - 20:30, 20:30 - 21:00, 21:00 - 21:30, 21:30 - 22:00, 22:00 - 22:30, 22:30 - 23:00, 23:00 - 23:30, 23:30 - 00:00
Header Record (15-minute interval metering data)	NMI, Meter Serial Number, Read Date, UOM, Estimated?, Energy Flow Type, Consumption Date, 00:00 – 00:15, 00:15 – 00:30, 00:30 – 00:45, 00:45 – 01:00, 01:00 – 01:15, 01:15 – 01:30, 01:30 – 01:45, 01:45 – 02:00, 02:00 – 02:15, 02:15 – 02:30, 02:30 – 02:45, 02:45 – 03:00, 03:00 – 03:15, 03:15 – 03:30, 03:30 – 03:45, 03:45 – 04:00, 04:00 – 04:15, 04:15 – 04:30, 04:30 – 04:45, 04:45 – 05:00, 05:00 – 05:15, 05:15 – 05:30, 05:30 – 05:45, 05:45 – 06:00, 06:00 – 06:15, 06:15 – 06:30, 06:30 – 06:45, 06:45 – 07:00, 07:00 – 07:15, 07:15 – 07:30, 07:30 – 07:45, 07:45 – 08:00, 08:00 – 08:15, 08:15 – 08:30, 08:30 – 08:45, 08:45 – 09:00, 09:00 – 09:15, 09:15 – 09:30, 09:30 – 09:45, 09:45 – 10:00, 10:00 – 10:15, 10:15 – 10:30, 10:30 – 10:45, 10:45 – 11:00, 11:00 – 11:15, 11:15 – 11:30, 11:30 – 11:45, 11:45 – 12:00, 12:00 – 12:15, 12:15 – 12:30, 12:30 – 12:45, 12:45 – 13:00, 13:00 – 13:15, 13:15 – 13:30, 13:30 – 13:45, 13:45 – 14:00, 14:00 – 14:15, 14:15 – 14:30, 14:30 – 14:45, 14:45 – 15:00, 15:00 – 15:15, 15:15 – 15:30, 15:30 – 15:45, 15:45 – 16:00, 16:00 – 16:15, 16:15 – 16:30, 16:30 – 16:45, 16:45 – 17:00, 17:00 – 17:15, 17:15 – 17:30, 17:30 – 17:45, 17:45 – 18:00, 18:00 – 18:15, 18:15 – 18:30, 18:30 – 18:45, 18:45 – 19:00, 19:00 – 19:15, 19:15 – 19:30, 19:30 – 19:45, 19:45 – 20:00, 20:00 – 20:15, 20:15 – 20:30, 20:30 – 20:45, 20:45 – 21:00, 21:00 – 21:15, 21:15 – 21:30, 21:30 – 21:45, 21:45 – 22:00, 22:00 – 22:15, 22:15 – 22:30, 22:30 – 22:45, 22:45 – 23:00, 23:00 – 23:15, 23:15 – 23:30, 23:30 – 23:45, 23:45 – 00:00
National Metering Identifier (NMI)	NMI for the connection point. Does not include check-digit or NMI suffix.
Meter Serial Number	Multiple meters indicated by their respective meter serial numbers. Energy values from each meter are to be collectively published by Consumption Date
Energy Flow Type	Consumption, Controlled Load and Generation energy flows
Energy Value	kWh value identifies the consumption and kW or kVA value identifies demand for the associated Energy Flow Type Load means that energy flows to the connection point from the grid Generation means energy flows to the grid from the connection point
UOM	kWh
Date	Date energy flow occurred or to which estimation occurred. Measured in EST.
Date Format	DD/MM/YYYY

File component	Parameters
Data Quality	Metering data estimated? Y or N. Note this is the plain English use of the term estimate Metering data estimated? Y or N. Note this is the plain English use of the term estimate. Field value is Y if any of the elements on the associated row have been estimated
File Order	File ordered by date. Ordered by oldest date at the top of the file and most recent date at the bottom of the file

C.2 Example: 30-minute interval file

NMI	Meter Serial Number	Read Date	UOM	Estimated?	Energy Flow Type	Consumption Date	00:00 – 00:30	00:30 – 01:00	01:00 – 01:30	01:30 – 02:00	X	X	X		X	X	X	22:00 – 22:30	22:30 – 23:00	23:00 – 23:30	23:30 – 00:00
6xxxxxxxxx			kWh	N	Consumption	Date 1															
6xxxxxxxxx			kWh	N	Controlled Load	Date 1															
6xxxxxxxxx			kWh	N	Generation	Date 1															
6xxxxxxxxx			kWh	N	Consumption	Date 2															
6xxxxxxxxx			kWh	N	Controlled Load	Date 2															
6xxxxxxxxx			kWh	N	Generation	Date 2															
6xxxxxxxxx			kWh	N	Consumption	Date 3															
6xxxxxxxxx			kWh	N	Controlled Load	Date 3															
6xxxxxxxxx			kWh	N	Generation	Date 3															

C.3 Example: 15-minute interval file

NMI	Meter Serial Number	Read Date	UOM	Estimated?	Energy Flow Type	Consumption Date	00:00 – 00:15	00:15 – 00:30	00:30 – 00:45	00:45 – 01:00	X	X	X		X	X	X	23:00 – 23:15	23:15 – 23:30	23:30 – 23:45	23:45 – 00:00
6xxxxxxxxx			kWh	N	Consumption	Date 1															
6xxxxxxxxx			kWh	N	Controlled Load	Date 1															
6xxxxxxxxx			kWh	N	Generation	Date 1															
6xxxxxxxxx			kWh	N	Consumption	Date 2															
6xxxxxxxxx			kWh	N	Controlled Load	Date 2															
6xxxxxxxxx			kWh	N	Generation	Date 2															
6xxxxxxxxx			kWh	N	Consumption	Date 3															
6xxxxxxxxx			kWh	N	Controlled Load	Date 3															
6xxxxxxxxx			kWh	N	Generation	Date 3															