METERING DATA PROVISION PROCEDURES

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AEMO
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Version	Effective Date	Summary of Changes
0.1		Strawman
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1. INTRODUCTION

1.1. Purpose and scope

These Procedures establish minimum requirements for the manner and form in which retailers or Distribution Network Service Providers (DNSPs) must provide *metering data* to a *retail customer* or their *customer authorised representative* in response to a request for *metering data* from either party.

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 National Electricity Rules (NER) clause 7.7(a)(7).

These Procedures specify the:

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

These are the *Metering Data Provision Procedures* (Procedures) made under clause 7.16 of the 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.

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
Accumulated metering data - summary data	This includes: Total volume of energy for each energy flow type for the specified time period. Diagrammatic representation of daily volumes for each energy flow type for the specified time period. Each meter reading date for each energy flow type for the specified period of time. From Date and Read Date for the specified time period
Controlled load	Controlled load is applicable to electricity usage that is separately metered and controlled by a party other than the customer. It is used for operating storage water heaters, thermal storage space heaters, and other approved fixed wired appliances. Controlled load energy usage values are positive in *metering data* files.
Daily time periods	Time periods during a day when different usage rates are applied to energy usage.

Term	Definition
Demand/Capacity	Is calculated by identifying the highest half hourly interval usage for each "Date" period and is multiplied by two to obtain the maximum demand expressed in kW. For 15 minute intervals, the highest 15 minute interval usage for each "Date" period is identified and multiplied by four to obtain the maximum demand expressed in kW. Maximum demand expressed in kVA is the maximum value determined for each "Date" period as follows: $kVA = 2 \times \sqrt{kW^2 + kVAr^2}$ Where: kW = kilowatts recorded over a 30 minute period. kVAr = kilovolt ampere reactive recorded over a 30minute period.
Energy flow type	Energy flow over a period of time for which there is a separate energy measurement or a separate usage rate.
Extent of energy usage	See energy flow type.
Generation	Volume of energy generated by the *retail customer*, i.e. energy flow to the grid from the connection point. Where the generated energy is measured by a net *metering installation*, the generated energy will be combined with energy usage values and energy usage values will be negative when excess generation occurs for a period. Where the generated energy is measured by a gross *metering installation*, the generated energy will be separate from energy usage and will have a positive value.
Interval metering data - summary data	This includes: Total volume of energy for each energy flow type for the specified time period. Diagrammatic representation of daily volumes for each energy flow type for the specified time period. From Date and To Date for the specified time period.
Interval metering data – detailed data	NEM12 file that complies with the Meter Data File Format Specification NEM12 & NEM13.
Load profile	A diagram showing a retail customer's energy consumption over the time period as requested by the retail customer or customer authorised representative. This is provided: Monthly for remotely read interval metering data. By Read Date for manually read accumulated or interval metering data.
Nature	See energy flow type.
Off-peak	A time period during a day when an off-peak rate is applied to energy usage.
Peak	A time period during a day when a peak rate is applied to energy usage.
Shoulder	A time period during a day when a shoulder rate is applied to energy usage.
UOM	Unit of Measure (refer to clause 4.1).

1.2.2. Interpretation

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

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

1.3. Related AEMO procedures

Additional information relevant for these Procedures can be found in the documents listed below. These documents are available on AEMO's website[1]:

I. Standing Data for MSATS.

II. Metering Data File Format Specification NEM12 & NEM13.

III. National Metering Identifier Procedure.

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

2. IDENTITY VERIFICATION AND DATA DELIVERY TIMEFRAMES

(a) *Retailers* and *DNSPs* must verify customer identity and use reasonable endeavours to provide *metering data* to *retail customers* and *customer authorised representatives* within the delivery timeframes detailed in clauses 2.2 and 2.3.

2.1. Verifying the identity of a retail customer or customer authorised representative

(a) *Retailers* and *DNSPs* must identify and publish, at a minimum, the information below required from a *retail customer* or *customer authorised representative* who requests *metering data.*

I. Sufficient information to verify identity and relevant consents from *retail customers* and *customer authorised representatives*.

II. The way in which a request for *metering data* can be made, e.g. email, writing, telephone, etc.

III. The form in which the *metering data* will be provided by the *retailer* or *DNSP,* e.g. electronic, physical copy, etc.

(b) It is the responsibility of *retailers* and *DNSPs* to determine what needs to be done to ensure their Privacy Act 1988 (Commonwealth) obligations have been met.

(c) Where a *retailer* or *DNSP* determines it cannot verify the identity or relevant consents of a *retail customer* or *customer authorised representative*, the *retailer* or *DNSP* must advise the *retail customer* or *customer authorised representative* within three *business days* of receiving the request for *metering data* that insufficient verification information has been provided.

(d) The *retailer* or *DNSP* notification, issued in accordance with clause 2.1(c), must:

I. Provide detail of where the verification information was insufficient.

II. Advise that the request for *metering data* is closed.

III. Advise that a new *metering data* request with complete verification information must be provided.

(e) A new *metering data* request is deemed to exist when a *retail customer* or *customer authorised representative* provides the complete verification information to the *retailer* or *DNSP*, in accordance with clause 3.3(a).

2.2. Retail customer request

(a) Where a *retail customer* requests their *metering data, Retailers* and *DNSPs* must use reasonable endeavours to deliver the *metering data* to the *retail customer* within 10 *business days*. This delivery timeframe commences from the date the request is received by the *retailer* or *DNSP*.

2.3. Customer authorised representative

(a) Where a *customer authorised representative* requests *metering data* for one *retail customer, retailers* and *DNSPs* must use reasonable endeavours to deliver the *metering data* to the *customer authorised representative* within 10 *business days*. This delivery timeframe commences from the date the request is received by the *retailer* or *DNSP*.

(b) Where a *customer authorised representative* requests *metering data* for more than one but less than 100 *retail customers* in a single request*, Retailers* and *DNSPs* must use reasonable endeavours to deliver the *metering data* to the *customer authorised representative* within 20 *business days*. This delivery timeframe commences from the date the request is received by the *retailer* or *DNSP*.

(c) Where a *customer authorised representative* requests *metering data* for more than 100 *retail customers* in a single request, the delivery timeframe must be agreed between the *retailer* or *DNSP* and the *customer authorised representative*.

3. DATA DELIVERY METHOD

(a) *Retail customers* or *customer authorised representatives* may request detailed *metering data* for analysis or summary *metering data*.

3.1. Delivering summary data

(a) The *retailer* or *DNSP* must provide the summary data electronically or physically to the *retail customer* or *customer authorised representative,* whichever is requested by the *retail customer* or *customer authorised representative.*

(b) The summary data must be provided in a Portable Document Format (PDF), unless otherwise agreed with the *retail customer* or *customer authorised representative*.

3.2. Delivering detailed data

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

(b) The detailed data must be constructed in a CSV format, unless otherwise agreed with the *retail customer* or *customer authorised representative*.

(c) Detailed data constructed in a CSV format may be delivered as a compressed file with a ".zip" extension if needed to manage file size of delivered data.

3.3. File naming conventions

(a) PDF summary data file name must follow the convention detailed below and in clause 3.3(c).

I. *NMI_MeteringDataStartDate_MeteringDataEndDate_FileProvisionDate_FileType.pdf*

II. Example:

8000000000_20140301_20160301_20160305130000_SUMMARY.pdf

(b) CSV detailed data file name must follow the convention detailed below and in clause 3.3(c).

IV. *NMI_MeteringDataStartDate_MeteringDataEndDate_FileProvisionDate_FileType.csv*

V. Example

8000000000_20140301_20160301_20160305130000_DETAILED.csv

(c) File naming fields must use the following format.

Field Name	Description	Format
NMI	NMI for the connection point. Does not include check digit or NMI Suffix.	Char(10)
MeteringDataStartDate	Date at the start of the requested metering data period.	Date(8) (i.e. CCYYMMDD)
MeteringDataEndDate	Date at the end of the requested metering data period.	Date(8) (i.e. CCYYMMDD
FileProvisionDate	Date and time when metering data file is produced.	DateTime(14) (i.e. CCYYMMDDhhmmss)
FileType	"SUMMARY" for both accumulated and interval summary files. "DETAILED" for interval detailed file.	VarChar(10) (not case sensitive)

3.4. Number of metering data files to be provided

(a) *Retailers* and *DNSPs* must provide a single *metering data* file in relation to a *retail customer's metering installation* for the requested period.

(b) Where there has been a change of *metering installation* configuration during the period for which *metering data* is requested, the *retailer* or *DNSP* may provide a separate *metering data* file for each *metering installation* configuration period. A *metering installation* configuration change includes a change of tariff and a change from *accumulated metering* to *interval metering*.

4. DATA FILE CONTENT

(a) *Retailers* and *DNSPs* must provide the following content for each *metering data* file.

4.1. Field details – format and unit of measure

(a) Data fields for detailed and summary *metering data* files must use these permitted values (a subset of units of measure detailed in the Metering Data File Format Specification NEM12 & NEM13). Note that the permitted values for unit of measure are not case sensitive.

Permitted values	Description	Format	Character length
kWh	Kilowatt hour (energy usage)	Numeric	15.3
kW	Kilowatt (demand/capacity)	Numeric	15.3
kVA	Kilovolt ampere (demand/capacity)	Numeric	15.3

4.2. Accumulated metering data summary format

(a) The *accumulated metering data* summary must, at a minimum, include:

I. The nature and extent of energy usage.

II. A diagrammatic and numerical representation of the usage information.

(b) Conditions that apply to all summary *accumulated metering data* files are:

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

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

(c) Appendix A contains the *accumulated metering data* summary required file conditions and an example of a diagrammatic representation of energy usage.

(d) The summary data format for *accumulated metering data* provided by a *retailer* 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 for *accumulated metering data* (i.e. end of meter reading period),

VI. From Date (i.e. start of meter reading period),

VII. Energy Flow Types:

A. Total usage or billing-related components, e.g. Peak, Shoulder, Off-Peak usage, etc.,

B. Controlled Load usage (only if applicable),

C. Generation (only if applicable).

(e) The summary data format for *accumulated metering data* provided by a *DNSP* 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 for *accumulated metering data* (i.e. end of meter reading period),

VI. From Date (i.e. start of meter reading period).

VII. Energy Flow Types:

A. Total usage,

B. Controlled Load usage (only if applicable),

C. Generation (only if applicable).

4.3. Interval metering data summary format

(a) The *interval metering data* summary to be provided by a *retailer* and *DNSP* must, at a 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 in (I) above.

(b) Conditions that apply to all summary *interval metering data* files are:

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

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

(c) Appendix B contains the *interval metering data* summary format required file conditions and an example of a diagrammatic representation of energy usage.

(d) The summary data format for *interval metering data* provided by a *retailer* 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. Date, monthly for remotely read *interval metering data* or To Date for manually read *interval metering data* (i.e. end of meter reading period),

VI. From Date (i.e. start of meter reading period).

VII. Energy Flow Types:

A. Total usage or billing-related components, e.g. Peak, Shoulder, Off-Peak usage, etc.,

B. Controlled Load (only if applicable),

C. Generation (only if applicable).

VIII. Demand/Capacity (if applicable for billing or if requested by a *retail customer,* or *customer authorised representative*, and is available).

(e) The summary data format for *interval metering data* provided by a *DNSP* 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. Date, monthly for remotely read *interval metering data* or To Date for manually read *interval metering data* (i.e. end of meter reading period,

VI. From Date (i.e. start of meter reading period).

VII. Energy Flow Types:

A. Total usage,

B. Controlled load (only if applicable),

C. Generation (only if applicable).

4.4. Detailed data format

(a) The detailed data format for *interval metering data* provided by a *retailer* or *DNSP* must be the NEM12 file that complies with the Meter Data File Format Specification NEM12 & NEM13.

(b) *Retailers* and *DNSPs* must make a NEM 12 customer guide available to assist *retail customers* to understand and interpret the data included in the NEM 12 file.

(c) The NEM 12 customer guide must, at a minimum, explain how usage, generation or controlled load is represented in a NEM 12 file in an understandable manner and how to load and open the NEM12 file.

4.5. Ability to offer alternative metering data formats

(a) For either a summary or detailed *metering data* format, where a *retail customer* or *customer authorised representative* requests an alternative *metering data* format that does not meet the minimum *metering data* requirements specified in these Procedures, a *retailer* or *DNSP* may offer a *retail customer* and/or a *customer authorised representative* an alternative *metering data* format.

(b) *Retailers* and *DNSPs* must make a customer guide available to assist *retail customers* understand and interpret the data included in the alternative file.

(c) The customer guide must, at a minimum, explain in an understandable manner how usage, generation or controlled load is represented in an alternative file, and how to load and open the alternative file.

(d) *Retailers* and *DNSPs* must obtain informed consent from a *retail customer* or *customer authorised representative* before providing an alternative *metering data* file.

APPENDIX A. ACCUMULATED METERING DATA SUMMARY FORMAT

A.1 File conditions

File conditions detail the requirements for the information that must be provided in accordance with clauses 4.2(d) and 4.2(e).

File component	Parameters
File Type	PDF
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 published by Read Date.
Energy Flow Type	Total usage, Peak, Shoulder, Off-Peak, Controlled Load and Generation energy flows, where applicable, to be provided by *retailers.* Total usage, Controlled Load (if applicable) and Generation(if applicable) to be provided by *DNSPs*.
Energy Value	kWh value identifies the consumption for the associated Energy Flow Type. Usage means 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 metering data was collected, i.e. the end of
From Date	The start date of the meter reading period.
Date Format	DD/MM/YYYY
Data Quality	Provide a statement indicating whether the metering data file contains estimated data and specify which reading period(s) contain estimated data.
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.

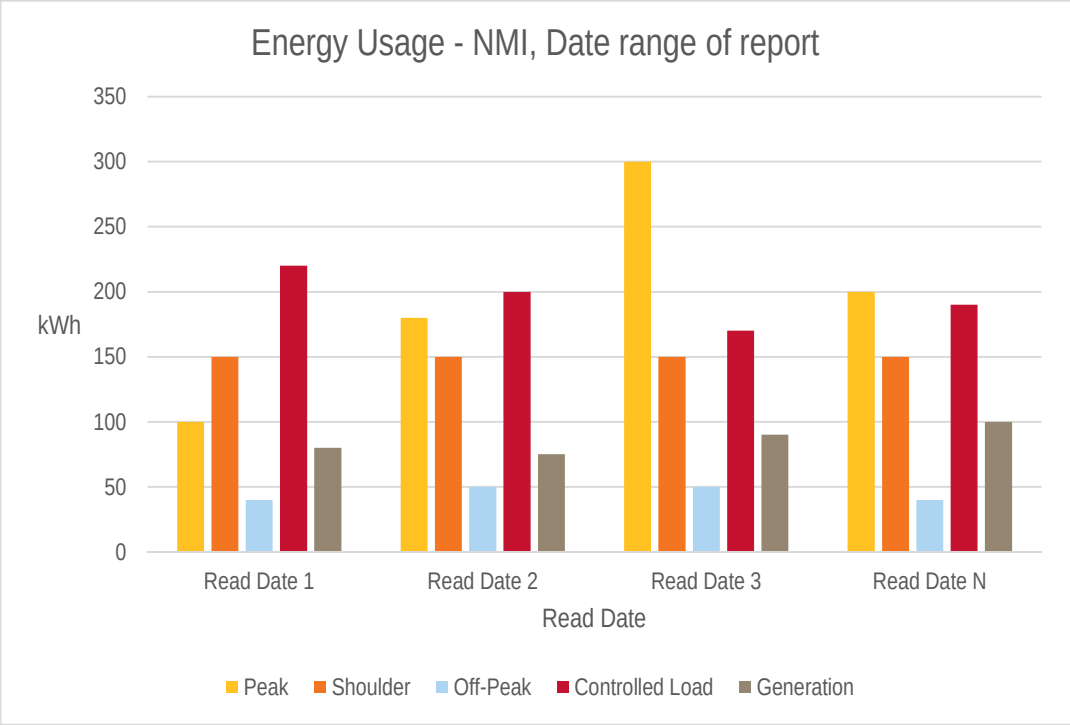
A.2 Example: accumulated file

Example of data tabulation that could be provided by a *retailer* for a connection point with peak, shoulder, off-peak and controlled load energy usage and gross metered generation.

NMI	Meter Serial Number	UOM	From Date	Read Date	Peak	Shoulder	Off-Peak	Controlled Load	Generation
6xxxxxxxxx	123xxxx	kWh	**From Date 1**	**Read Date 1**	100	150	40	220	80
6xxxxxxxxx	123xxxx	kWh	**From Date 2**	**Read Date 2**	180	150	50	200	75
6xxxxxxxxx	123xxxx	kWh	**From Date 3**	**Read Date 3**	300	150	50	170	90
6xxxxxxxxx	123xxxx	kWh	**From Date N**	**Read Date N**	200	150	40	190	100

A.3 Example: diagrammatic representation of energy usage

Example of diagrammatic representation of data that could be provided by a *retailer* for a connection point with peak, shoulder, off-peak and controlled load energy usage and gross metered generation.



APPENDIX B. INTERVAL METERING DATA SUMMARY FORMAT

B.1 File conditions

File conditions detail the requirements for the information that must be provided in accordance with clauses 4.3(d) and 4.3(e).

File component	Parameters
File Type	PDF,
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 published by Read Date when manually read *interval metering data* and monthly for remotely read *interval metering data*.
Energy Flow Type	Total usage, Peak, Shoulder, Off-Peak, Controlled Load, Generation energy flows, where applicable, to be provided by *retailers.* Demand/Capacity (if applicable for billing or if requested by a *retail customer,* or *customer authorised representative*, and is available). Total usage, Controlled Load (if applicable) and Generation (if applicable) to be provided by *DNSPs*.
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. Usage 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 usage), kW or kVA (demand).
From Date	The start date of the meter reading period for a manually read meter.
To Date	The end date of the meter reading period for a manually read meter
Date (remotely read meters only)	Month in which energy usage or demand occurred.
Date Format	DD/MM/YYYY
Data Quality	Provide a statement indicating whether the metering data file contains estimated data and specify which reading period(s) contain estimated data.
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

Example of data tabulation that could be provided by a *retailer* for a connection point with peak, shoulder, off-peak and controlled load energy usage, gross metered generation and demand.

NMI	Meter Serial Number	**From Date**	**To Date**	**Peak**	**Shoulder**	**Off-Peak**	**Controlled Load**	**Generation**	**UOM**	**Demand**	**UOM**

6xxxxxxxxx	123xxxx	**From Date 1**	**To Date 1**	100	150	40	0	80	kWh	25	kVA
6xxxxxxxxx	456xxxx	**From Date 1**	**To Date 1**	0	0	0	220	0	kWh	0	kVA
6xxxxxxxxx	123xxxx	**From Date 2**	**To Date 2**	180	150	50	0	75	kWh	35	kVA
6xxxxxxxxx	456xxxx	**From Date 2**	**To Date 2**	0	0	0	200	0	kWh	0	kVA
6xxxxxxxxx	123xxxx	**From Date 3**	**To Date 3**	300	150	50	0	90	kWh	35	kVA
6xxxxxxxxx	456xxxx	**From Date 3**	**To Date 3**	0	0	0	170	0	kWh	0	kVA
6xxxxxxxxx	123xxxx	**From Date N**	**To Date N**	200	150	40	0	100	kWh	40	kVA
6xxxxxxxxx	456xxxx	**From Date N**	**To Date N**	0	0	0	190	0	kWh	0	kVA

B.3 Example: diagrammatic representation of energy usage

Example of diagrammatic representation of data that could be provided by a *retailer* for a connection point with peak, shoulder, off-peak and controlled load energy usage, gross metered generation and demand.