METERING DATA PROVISION PROCEDURES

PREPARED BY:	MARKETS
VERSION:	1.0~~0.2~~
EFFECTIVE DATE:	~~6 July~~1 March 2016~~5~~
STATUS:	FINAL~~DRAFT CONSULTATION~~

Approved for distribution and use:

M. ZEMA **CHIEF EXECUTIVE OFFICER**

Version: 1.0 **1 September 2015**

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

VERSION RELEASE HISTORY

Version	Date	Summary of Changes
0.1	30 April 2015	Metering Data Provision Procedures – Strawman for consultation
0.2	6 July 2015	~~Draft~~ Metering Data Provision Procedures – Draft for consultation
1.0	1 September 2015	Initial publication of Metering Data Provision Procedures

CONTENTS

1. INTRODUCTION

1.1. Purpose and scope

The purpose of these Procedures is to establish the minimum requirements for the manner and form in which *retailers* and~~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*.

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:
  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 representatives*.
- Minimum delivery method for the requested *metering data*.

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.

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~~energy 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~~To Date for the specified time period
Average Daily Load Profile	A load profile across a day based on the average of *interval metering data* for the period of the request for the *metering data*.
Controlled load	Controlled load applies~~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.

Term	Definition
~~Daily time periods~~	~~Time periods during a day when different usage rates are applied to energy usage.~~
~~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, e.g. General Supply, Controlled Load and Generation. ~~or a separate usage rate.~~
~~Extent of energy usage~~	~~See energy flow type.~~
General supply	General light and power electricity usage (does not include controlled load usage).
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 separately from *energy* usage, the total generated *energy* volume is provided and is positive in value. Where the generated *energy* measurement is ~~measured by a net *metering installation*, the generated *energy* will be~~ combined with *energy* usage values, the ~~and~~ total generated *energy* volume is not provided and the *energy* usage values may~~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~~*energy* 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~~Detailed *interval metering data* file contains data records that comply~~ies~~ with the Meter Data File Format Specification NEM12 & NEM13.
Maximum Demand	Maximum Demand (sometimes referred to as Capacity) is calculated by identifying the highest half hourly interval usage that occurs during each "To Date" period and multiplied by two to obtain the maximum demand expressed in kW. For 15 minute intervals, the highest 15 minute interval usage that occurs during each "To Date" period is identified and multiplied by four to obtain the maximum demand expressed in kW.
~~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 – kWh (*energy*), kW (demand/capacity). ~~(~~rRefer to clause ~~5~~4.1 for format details~~)~~.
Usage	Consumption of electrical *energy*.

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.~~

i. Metering Data File Format Specification NEM12 & NEM13.

ii. National Metering Identifier Procedure.

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

2. IDENTITY VERIFICATION AND DATA DELIVERY TIMEFRAMES

(a) *Retailers* and *DNSPs* must use~~d~~ 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.

(b) Delivery timeframes do not include postal delivery time.

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* receives a *metering data* request, related to one *retail customer,* and determines that the verification information provided does not include all information required by the *retailer* or *DNSP*,~~it cannot verify the identity or relevant consents of a *retail customer* or *customer authorised representative*,~~ the *retailer* or *DNSP* must use reasonable endeavours to advise the *retail customer* or *customer authorised representative* within three *business days* of receiving the request for *metering data* ~~to notifying them~~ that ~~insufficient~~not all required verification information has been provided.

(d) Where a *retailer* or *DNSP* receives a *metering data* request from a *customer authorised representative,* related to more than one but up to 100 *retail customers,* and determines that the verification information provided does not include all verification information required by the *retailer* or *DNSP*, the *retailer* or *DNSP* must use reasonable endeavours to advise the *customer authorised representative* within six *business days* of receiving the request for *metering data* that not all required verification information has been provided.

~~(c)~~(e) Where a *retailer* or *DNSP* receives a *metering data* request from a *customer authorised representative*, related to more than 100 *retail customers*, the timeframe for using reasonable endeavours to advise the *customer authorised representative* that the verification information provided does not include all verification information, required by the *retailer* or *DNSP*, must be agreed at the time the delivery timeframe is agreed under clause 2.3(c).

~~(d)~~(f) The *retailer* or *DNSP* notification, issued in accordance with clauses 2.1(c) and 2.1(d), must:

i. Advise the requestor ~~Provide detail of where the~~that all required verification information was not provided~~insufficient~~ in a manner that is consistent with the Privacy Act 1988~~,~~ as determined by the *retailer* or *DNSP*.

ii. Advise that the request for *metering data* is closed.~~, and~~

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

~~(e)~~(g) 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~~2.1(a).

2.2. Retail customer request

(a) Where a *retail customer* requests their *metering data*, ~~R~~*r*etailers 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~~a *metering data* request, that includes all verification information required by the *retailer* or *DNSP,* 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~~a *metering data* request, that includes all verification information required by the *retailer* or *DNSP,* is received by the *retailer* or *DNSP*.

(b) Where a *customer authorised representative* requests *metering data* for more than one but up to and including~~less than~~ 100 *retail customers* in a single *business day*~~request~~, ~~R~~*r*etailers 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~~a *metering data* request, that includes all verification information required by the *retailer* or *DNSP,*~~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 *business day*~~request~~, the delivery timeframe must be agreed between the *retailer* or *DNSP* and the *customer authorised representative*.

(d) Where a *retailer* or *DNSP* receives a *metering data* request, related to more than one *retail customer,* and determines that the verification information for some *retail customers* does not include all verification information required by the *retailer* or *DNSP*, the *retailer* or *DNSP* must:

i. Provide *metering data* for those *retail customers* for which all verification information has been provided within the timeframes specified in clauses 2.3(b) and 2.3(c).

~~i.~~ii. Comply with clause 2.1(e) in relation to those *retail customers* for which all verification information was not provided.

3. DATA DELIVERY METHOD

(a) *Retail customers* or *customer authorised representatives* may request *retailers* or *DNSPs* to provide 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) Where a *retail customer* or *customer authorised representative* requests the summary data to be provided electronically, ~~T~~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~~n~~comma separated values (CSV) format, unless otherwise agreed with the *retail customer* or *customer authorised representative*.

(c) Detailed data constructed in a~~n~~ 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 that is delivered electronically~~name~~ must, at a minimum, follow the naming convention detailed below and in clause 3.3(c).

i. *NMI_MeteringDataStartDate_MeteringDataEndDate_FileProvisionDate_FileProviderName_FileType.pdf*

ii. Example:

8000000000_20140301_20160301_20160305130000_File Provider Name_SUMMARY.pdf

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

i. *NMI_MeteringDataStartDate_MeteringDataEndDate_FileProvisionDate_FileProviderName_FileType.csv*

ii. Example

8000000000_20140301_20160301_20160305130000_File Provider Name_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 the *metering data* file is produced.	DateTime(14) (i.e. CCYYMMDDhhmmss)
FileProviderName	Name of the organisation (i.e. *retailer* or *DNSP*) providing detailed or summary data file.	VarChar(15) (not case sensitive)
FileType	"SUMMARY" for both accumulated and interval summary files. "DETAILED" for an interval detailed file.	VarChar(10) (not case sensitive)

3.4. Number of metering data files to be provided

(a) Subject to clause 3.4(b), ~~R~~*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 may include~~s~~ a change of data stream arrangement~~tariff~~ or~~and~~ a change from accumulated *metering* to interval *metering*.

4. DATA FILE CONTENT

(a) *Retailers* and *DNSPs* must provide the following content, at a minimum, 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.

~~ii.~~iii. Date Format – DD/MM/YYYY.

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

(d) The summary data format for *accumulated metering data* provided by a *retailer* or a *DNSP* must, at a minimum, include the following information:

i. National Metering Identifier *(NMI)*.~~,~~

A. NMI for the *connection point* does not include check-digit or NMI suffix.

ii. Meter Serial Number.~~,~~

A. Multiple *meters* indicated by their respective *meter* serial numbers.

~~i.~~iii. Unit of Measure (UOM) for the Energy Flow Type – kWh.~~,~~

iv. Data quality indication.~~,~~

A. Provide, at a minimum, a statement indicating whether the *metering data* file contains estimated data and specifies which reading period(s) contain estimated data.

v. "To~~Read~~ Date" for *accumulated metering data* (i.e. end of meter reading period).~~,~~

A. Energy values from each *meter* to be published by "To Date".

~~ii.~~vi. "From Date" (i.e. start of meter reading period).~~,~~

~~iii.~~vii. Energy Flow Types:

A. General Supply usage – means *energy* flow from the grid to the *connection point.* (Note: Where the measurement of the *retail customer's* generation is combined with the measurement of general supply usage, the general supply usage

information is the net of usage and generation, i.e. usage values are positive for excess usage and negative for excess generation).~~Total usage or Peak, Shoulder, Off-Peak usage, etc., (i.e. components related to billing),~~

B. Controlled Load usage (only if applicable, i.e. if separately measured) – means *energy* flow from the grid to the *connection point*.~~,~~

C. Generation (only if applicable, i.e. if separately measured) – means *energy* flow to the grid from the *connection point*.

(e) *Retailers* and *DNSPs* are not limited in relation to any statement, disclaimer or other wording which they consider necessary to include with or be added to a summary *accumulated metering data* file.

~~(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~~i) and (ii) 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.

~~ii.~~iii. Date Format – DD/MM/YYYY.

(c) Appendix B contains ~~the~~ *interval metering data* summary ~~format required file conditions and an~~ examples of a tabulation of *energy* flows, a diagrammatic representation of *energy* flows, a diagrammatic representation of Maximum Demand~~usage~~ and an Average Daily Load Profile.

(d) The summary data format for *interval metering data* provided by a *retailer* or a *DNSP* must, at a minimum, include the following information:

i. National Metering Identifier *(NMI)*.~~,~~

A. *NMI* for the *connection point* does not include check digit of *NMI* suffix.

ii. Meter Serial Number.

A. Multiple *meters* indicated by their respective serial numbers.~~,~~

~~i.~~iii. Unit of Measure (UOM) for the Energy Flow Type – kWh.~~,~~

iv. Data quality indication.~~,~~

A. Provide, at a minimum, a statement indicating whether the *metering data* file contains estimated data and specify which reading period(s) contain estimated data.

v. "To Date", monthly for remotely read *interval metering data*. ~~or~~ "To Date" for manually read *interval metering data* may be monthly or~~(i.e.~~ end of *meter* reading period.~~),~~

A. Energy values from each *meter* to be published by "To Date".

~~ii.~~vi. "From Date" (i.e. start of *meter* reading period).

~~iii.~~vii. Energy Flow Types:

A. General Supply usage – means *energy* flow from the grid to the *connection point.* (Note: Where the measurement of the *retail customer's* generation is combined with the measurement of general supply usage, the general supply usage information is the net of usage and generation, i.e. usage values are positive for excess usage and negative for excess generation).~~Total usage or Peak, Shoulder, Off-Peak usage, etc., (i.e. components related to billing),~~

B. Controlled Load (only if applicable, i.e. if separately measured) – means *energy* flow from the grid to the *connection point*.~~,~~

C. Generation (only if applicable, i.e. if separately measured) – means *energy* flow to the grid from the *connection point*.

viii. Maximum Demand is, at a minimum, based on General Supply *energy* usage and is defined in clause 1.2.1.~~/Capacity (if applicable for billing or if requested by a *retail customer*, or *customer authorised representative*, and is available).~~

ix. Average Daily Load Profile

A. To be based, at a minimum, on General Supply and Controlled Load *energy* flows.

B. To be produced from at least the following *metering data* 12 months of *metering data* immediatey preceding the date of the *metering data* request or the *metering data* for the period when the *retailer* or *DNSP* became responsible for the *retail customer's metering installation*, whichever is the lesser.

~~A.~~C. *Retailers* must include a summary of their *retail customer's* time of use structures or identify where information can be obtained for a *retail customer* to determine their specific time of use structure.

(e) *Retailers* and *DNSPs* are not limited in relation to any statement, disclaimer or other wording they consider necessary to include with or be added to a summary *interval metering data* file.

~~(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, at a minimum, be the 200 and 300 records of a NEM12 file and, where available, 400 records ~~NEM12 file~~ that comply~~ies~~ with the Meter Data File Format Specification NEM12 & NEM13.

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

(c) The NEM~~-~~12 retail customer guide must, at a minimum, explain how usage, generation or controlled load is represented in a ~~NEM 12~~detailed *interval metering data* file in an understandable manner, and provide examples of applications that can~~how to load and~~ open the ~~NEM12~~detailed *interval metering data* 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* ~~with~~ an alternative *metering data* format that does not meet the minimum *metering data* requirements specified in these Procedures.

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

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

(b) *Retailers* and *DNSPs* must obtain informed consent from a *retail customer* or *customer authorised representative* before providing an alternative *metering data* file in accordance with clause 4.5(a).

(c) For either a summary or detailed *metering data* format, where a *retail customer* or *customer authorised representative* requests an alternative *metering data* format that exceeds the minimum *metering data* requirements specified in these Procedures, a *retailer* or *DNSP* may offer a *retail customer* or a *customer authorised representative* an alternative *metering data* format that exceeds the minimum *metering data* requirements specified in these Procedures.

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

(e) The customer guide must, at a minimum, explain how usage, generation or controlled load is represented in an alternative file in an understandable manner and provide examples of applications that can open the alternative file.

APPENDIX A. EXAMPLE – 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, Cotrolled 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.

[DR1]

A.2A.1 Example: accumulated file

Example of data tabulation that would be provided by a *retailer* or a *DNSP* for a *connection point* with peak, shoulder, off-peak andGeneral Supply usage, cControlled lLoad energy usage and gross metered separately measured generation *energy* flows.

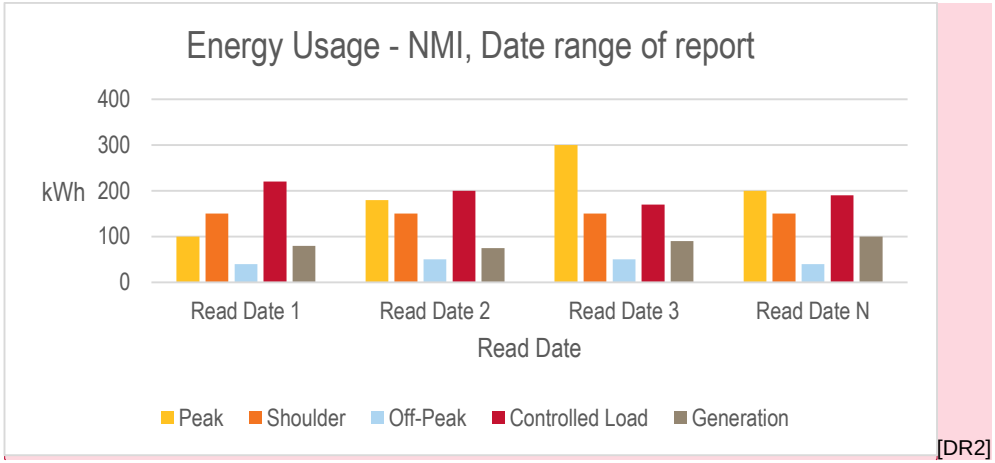
NMI	Meter Serial Number	UOM	From Date	Read Date	Peak	Shoulder	Off-Peak	Controlled Load	Generation
6xxxxxxxxx	123xxxx	kWh	From Date 1	Read Date 1	100	150	40	220	80
6xxxxxxxxx	123xxxx	kWh	From Date 2	Read Date 2	180	150	50	200	75
6xxxxxxxxx	123xxxx	kWh	From Date 3	Read Date 3	300	150	50	170	90

~~6xxxxxxxxx~~	~~123xxxx~~	~~kWh~~	~~**From Date N**~~	~~**Read Date N**~~	~~200~~	~~150~~	~~40~~	~~190~~	~~100~~

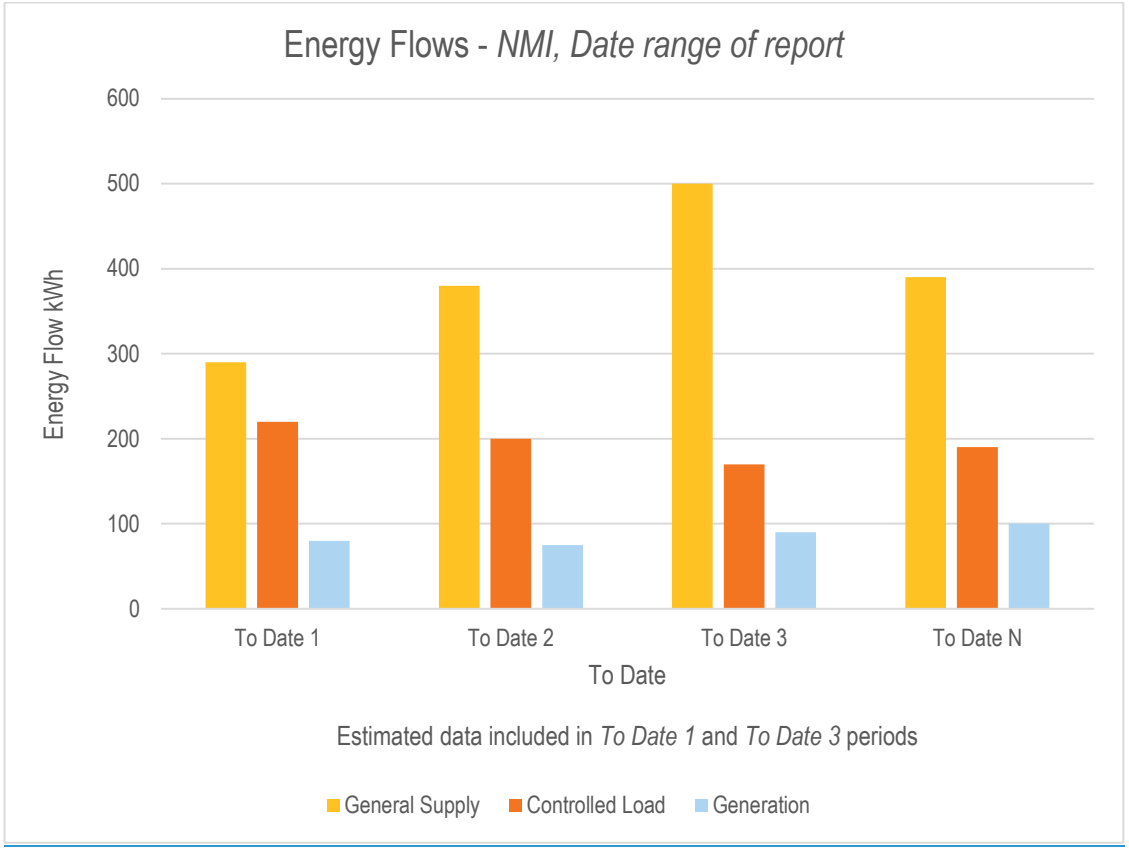
NMI	Meter Serial Number	UOM	From Date	To Date	General Supply	Controlled Load	Generation
6xxxxxxxxx	123xxxx	kWh	From Date 1	To Date 1	290	220	80
6xxxxxxxxx	123xxxx	kWh	From Date 2	To Date 2	380	200	75
6xxxxxxxxx	123xxxx	kWh	From Date 3	To Date 3	500	170	90
6xxxxxxxxx	123xxxx	kWh	From Date N	To Date N	390	190	100

~~A.3~~A.2 Example: diagrammatic representation of energy usage

Example of diagrammatic representation of data that would be provided by a *retailer* or a *DNSP* for a *connection point* with ~~peak, shoulder, off-peak and~~General Supply usage, ~~c~~Controlled ~~l~~Load ~~energy~~ usage and ~~gross metered~~ separately measured generation *energy* flows. Refer to clause 4.2 for requirements for this diagram.



[DR2]


Energy Flows - *NMI, Date range of report*
600
500
400
300
200
100
0
Energy Flow kWh
To Date 1
To Date 2
To Date 3
To Date N
To Date
Estimated data included in *To Date 1* and *To Date 3* periods
General Supply
Controlled Load
Generation

APPENDIX B. EXAMPLE – 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, Cotrolled 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.[DR3]

B.2B.1 Example: interval file

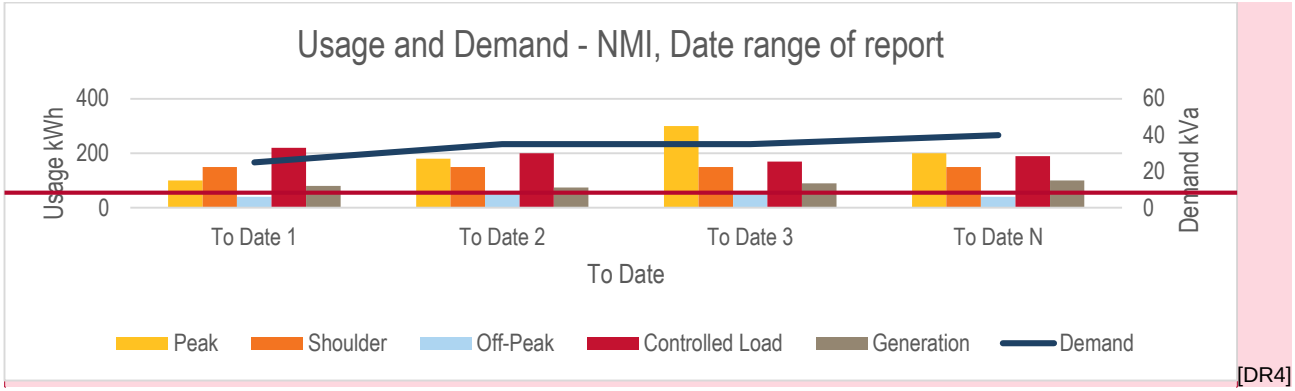
Example of data tabulation that would be provided by a *retailer* or *DNSP* for a *connection point* with peak, shoulder, off-peak andGeneral Supply usage, cControlled lLoad energy usage, and gross metered separately measured generation *energy* flows and maximum demand.

NMI	Meter Serial Number	From Date	To Date	Peak	Shoulder	Off-Peak	Controlled Load	Generation	UOM	De
6xxxxxxxxx	123xxxx	From Date 1	To Date 1	100	150	40	0	80	kWh	
6xxxxxxxxx	456xxxx	From Date 1	To Date 1	0	0	0	220	0	kWh	
6xxxxxxxxx	123xxxx	From Date 2	To Date 2	180	150	50	0	75	kWh	
6xxxxxxxxx	456xxxx	From Date 2	To Date 2	0	0	0	200	0	kWh	
6xxxxxxxxx	123xxxx	From Date 3	To Date 3	300	150	50	0	90	kWh	
6xxxxxxxxx	456xxxx	From Date 3	To Date 3	0	0	0	170	0	kWh	
6xxxxxxxxx	123xxxx	From Date N	To Date N	200	150	40	0	100	kWh	
6xxxxxxxxx	456xxxx	From Date N	To Date N	0	0	0	190	0	kWh	

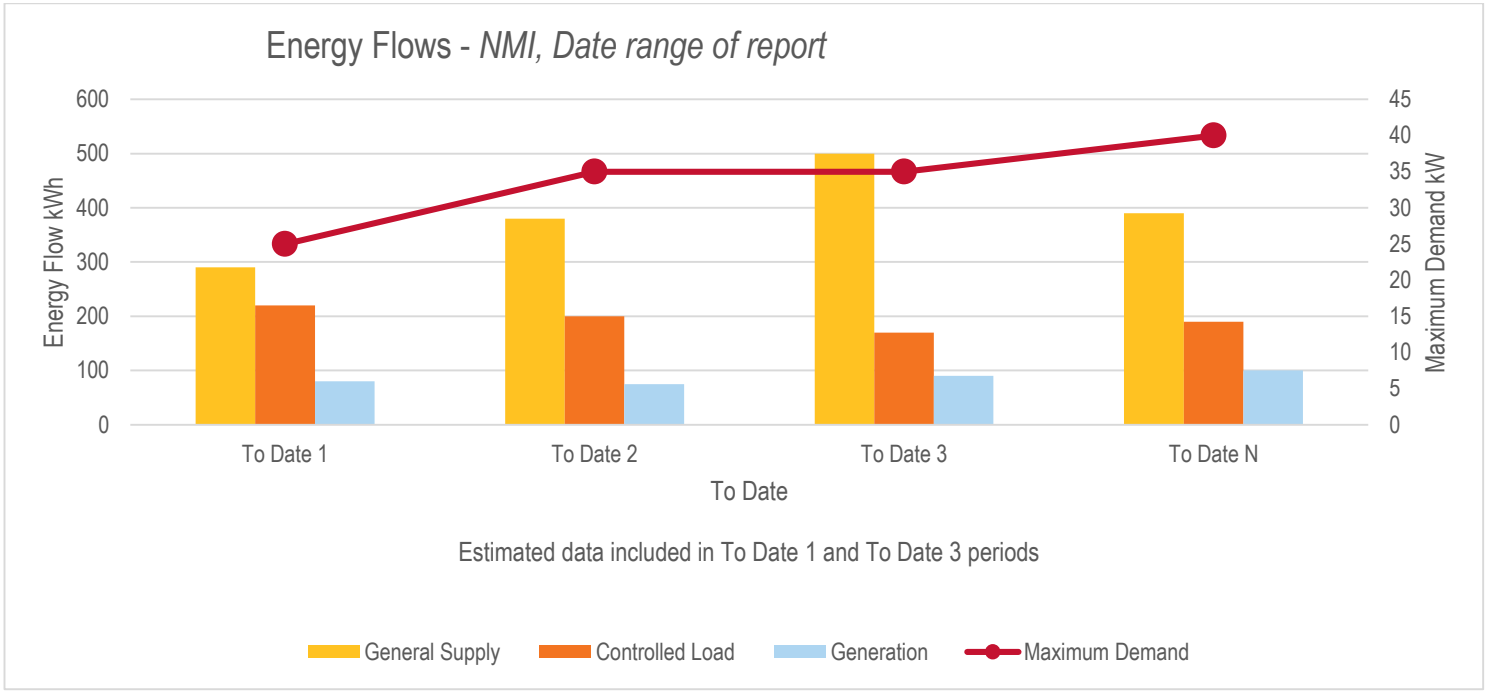
NMI	Meter Serial Number	UOM	From Date	To Date	General Supply	Controlled Load	Generation	Maximum Demand	Max. Dem. UOM
6xxxxxxxxx	123xxxx	kWh	From Date 1	To Date 1	290	220	80	25	kW
6xxxxxxxxx	123xxxx	kWh	From Date 2	To Date 2	380	200	75	35	kW
6xxxxxxxxx	123xxxx	kWh	From Date 3	To Date 3	500	170	90	35	kW
6xxxxxxxxx	123xxxx	kWh	From Date N	To Date N	390	190	100	40	kW

B.3B.2 Example: diagrammatic representation of energy usage

Example of diagrammatic representation of data that would be provided by a *retailer* or *DNSP* for a *connection point* with peak, shoulder, off-peak and General Supply, cControlled lLoad energy usage, and gross metered separately measured generation *energy* flows and maximum demand. Refer to clause 4.3 for requirements for this diagram.



[DR4]



B.3 Example: average daily load profile

Example of an Average Daily Load Profile that would be provided by a *retailer* or a *DNSP* (*DNSPS* not required to provide time of use information). Refer to clause 4.3 for requirements for this diagram.