
National Electricity Rules (Provision of Metering Data Services and Clarification of Existing Metrology Requirements)

Information

This version of the National Electricity Rules reflects amendments under the following rule as made:

National Electricity Amendment (Provision of Metering Data Services and Clarification of Existing Metrology Requirements) Rule 2010 No. 12

This version of the National Electricity Rules is provided for information purposes only.

The Australian Energy Market Commission does not guarantee the accuracy, reliability or completeness of this version of the National Electricity Rules. This version only reflects amendments under the above rule as made to Chapters 7, 10 and 11 of the National Electricity Rules (being Schedules 1, 2 4 and 5 of the rule as made, and only showing deleted, substituted and new definitions in Chapter 10 and the operative provisions in Chapter 11 under the rule as made).

The *National Electricity Amendment (Provision of Metering Data Services and Clarification of Existing Metrology Requirements) Rule 2010 No. 12* is published separately on the website of the Australian Energy Market Commission.

CHAPTER 7

7. Metering

7.1 Introduction to the Metering Chapter

7.1.1 Purpose

- (a) The purpose of this Chapter is to set out the rights and obligations of *Registered Participants* and the rights, obligations and qualifications of *Metering Providers and Metering Data Providers* –associated with the measurement of electrical energy, and the provision of *metering data* and *B2B Data* and the performance of *B2B Communications*.
- (b) This Chapter sets out provisions relating to:
 - (1) ~~revenue~~ metering installations and check metering installations used for the measurement of active energy and, where appropriate, reactive energy;
 - (2) collection and provision of *metering data* and *B2B Data*;
 - (3) provision, installation and maintenance of *metering installations* and the provision of metering data services ~~and servicing of data collection systems~~;
 - (4) accuracy of *metering installations*;
 - (5) inspection, testing and audit requirements;
 - (6) security of, and rights of access to, *metering data* and *B2B Data*;
 - (7) competencies and standards of performance; and
 - (8) metering data services database and the metering database; and
 - (9) metering register requirements ~~the metering database, including metering register requirements~~.
- (c) Nothing in this Chapter precludes the application of evolving technologies and processes as they become available in accordance with the *Rules*.

7.1.2 Obligations of Market Participants to establish metering installations

- (a) Before participating in the *market* in respect of a *connection point*, a *Market Participant* must ensure that:
 - (1) the *connection point* has a *metering installation* and that the *metering installation* is registered with AEMO;
 - (2) either:
 - (i) it has become the *responsible person* under clause 7.2.2 and has advised the *Local Network Service Provider*; or
 - (ii) it has sought an offer and, if accepted, entered into an agreement under clause 7.2.3; and

- (3) prior to registration, a *NMI* has been obtained by the *responsible person* for that *metering installation*.
- (b) *AEMO* may refuse to permit a *Market Participant* to participate in the *market* in respect of any *connection point* in relation to which that *Market Participant* is not in compliance with its obligations under paragraph (a).

7.1.3 Obligation to establish, maintain and publish procedures

- (a) *AEMO* is responsible for the establishment and maintenance of procedures specified in Chapter 7 except for procedures established and maintained under Rule 7.2A.
- (b) The procedures authorised by *AEMO* must be established and maintained by *AEMO* in accordance with the *Rules consultation procedures*.
- (c) The *Information Exchange Committee* is responsible for the establishment and maintenance of procedures specified in Rule 7.2A.
- (d) The procedures authorised by the *Information Exchange Committee* must be established and maintained in accordance with the requirements of Rule 7.2A.
- (e) The procedures established or maintained under this clause must be *published* by the party authorised to make the procedure.
- (f) *AEMO* must establish, maintain and *publish* a list of procedures authorised under the *Rules* relevant to this Chapter 7, irrespective of who authorised those procedures.

7.1.4 Amendment of procedures in this Chapter

- (a) Any person (the '**proponent**') may submit to *AEMO* a proposal (the '**proposal**') to amend any procedure in Chapter 7 including the *metrology procedure* except:
 - (1) in relation to the *jurisdictional metrology material* which is contained within the *metrology procedure*; and
 - (2) procedures specified in Rule 7.2A,and must include reasons for the proposed change.
- (b) For proposals submitted under paragraph (a), *AEMO* must:
 - (1) give notice of receipt of the proposal to the proponent; and
 - (2) advise the proponent of the action that *AEMO* proposals to undertake under paragraphs (c) or (e).
- (c) Where *AEMO*:
 - (1) accepts the proposal, *AEMO* must conduct the *Rules consultation procedures* in relation to that proposal;

- (2) requests further information from the proponent in relation to a proposal, on receiving that information AEMO must either accept, or reject the proposal; or
 - (3) rejects a proposal, AEMO must advise the proponent of its decision and reasons for the decision in writing.
- (d) AEMO may at the conclusion of the Rules consultation procedures amend the procedure (if necessary).
- (e) Where in AEMO's reasonable opinion, a proposal referred to in paragraph (a) relates to amendments that are of a minor or administrative nature, AEMO is not required to undertake the Rules consultation procedures but must:
 - (1) publish the proposal including the accompanying reasons;
 - (2) issue a notice to Registered Participants, Metering Providers, Metering Data Providers, Ministers and the AER advising that the amendment to the procedure has been published;
 - (3) invite submissions on the proposal;
 - (4) allow 10 business days for the receipt of submissions;
 - (5) allow a reasonable extension of time for submissions if requested in writing by a Registered Participant, Metering Provider or Metering Data Provider;
 - (6) publish submissions as soon as practicable after submissions have been received;
 - (7) consider the submissions; and
 - (8) publish, on or before the day of publication of the procedure identified in paragraph (a), reasons for the amendments to the procedure.

7.2 **Responsibility for Metering Installation, Metering Data and Market Settlement and Transfer Solution Procedures**

7.2.1 **Responsibility of the responsible person**~~Responsible person~~

- (a) The responsible person is the person responsible for in accordance with this Chapter 7, the metrology procedure and procedures authorised under the Rules:
 - (1) the provision, installation and maintenance of a metering installation; and
 - (2) the collection of metering data from each metering installation for which it is responsible, the processing of that data and the delivery of the processed data to the metering database and to parties entitled to that data under rule 7.7(a), except as otherwise specified in clause 7.2.1A(a).
- (b) The responsible person must perform its role in accordance with:
 - (1) this Chapter 7; and

(2) procedures authorised under the *Rules*.

(c) *AEMO* must establish, maintain and *publish* relevant explanatory material that sets out the role of the *responsible person* consistent with this Chapter 7.

7.2.1A Responsibility of AEMO for the collection, processing and delivery of metering data

(a) Where the *Market Participant* has selected a *responsible person* for a *metering installation* in accordance with clause 7.1.2(a)(2) and that *responsible person* is a *Transmission Network Service Provider*:

(1) the *Transmission Network Service Provider* is responsible for the provision, installation and maintenance of the *metering installation*; and

(2) *AEMO* is responsible for the collection of *metering data* from that *metering installation*, the processing of that data and the delivery of the processed data to the *metering database* and to parties entitled to that data under rule 7.7(a).

(b) In performing its role under subparagraph (a)(2), *AEMO* must:

(1) permit the *financially responsible Market Participant* to engage a *Metering Data Provider* of its choice to perform the *metering data services* between the *metering installation* and the *metering database* and to parties entitled to that data under rule 7.7(a), subject to the limitations on that choice imposed by clauses 7.2.4(d) and 7.2.4A(e);

(2) where a *financially responsible Market Participant* has not chosen a *Metering Data Provider* in accordance with subparagraph (1), engage a *Metering Data Provider* to provide *metering data services* between the *metering installation* and the *metering database* and to parties entitled to that data under rule 7.7(a);

(3) comply with the processes for the collection, processing and delivery of *metering data* from the *metering installation* to the *metering database* and to parties entitled to that data under rule 7.7(a) in accordance with the requirements of the procedures authorised under the *Rules*, and may establish additional processes if necessary in order to fulfil that role;

(4) if any additional processes established by *AEMO* for the purpose of fulfilling its obligations under subparagraph (3), and those processes impact on other persons, the relevant parts of those processes that impact on those persons must be incorporated in the *service level procedures*.

7.2.1B Responsibility for interconnectors

(a) For an *interconnector*, the relevant *Transmission Network Service Provider* is responsible for the provision, installation and maintenance of a *metering installation*

(b) For an *interconnector*, *AEMO* is responsible for the collection of *metering data* from that *metering installation*, the processing of that data and the delivery of the processed data to the *metering database*.

~~The responsible person is the person responsible for the provision, installation and maintenance of a metering installation in accordance with:~~

~~(1) this Chapter 7; and~~

~~(2) the metrology procedure.~~

7.2.2 Responsibility of the Market Participant

- (a) A *Market Participant* may elect to be the *responsible person* for a *metering installation* that is a type 1, 2, 3 or 4 *metering installation*.
- (b) A *Market Participant* is the *responsible person* for a type 1, 2, 3 or 4 *metering installation* if:
 - (1) the *Market Participant* elects not to request an offer from, or does not accept the offer of, the *Local Network Service Provider* for the provision of a *metering installation* under clause 7.2.3; or
 - (2) an agreement under clause 7.2.3 is terminated due to a breach by the *Market Participant*.

7.2.3 Responsibility of the Local Network Service Provider

- (a) The *Local Network Service Provider* is the *responsible person* for:
 - (1) a type 1, 2, 3 or 4 *metering installation* connected to, or proposed to be connected to, the *Local Network Service Provider's network* where the *Market Participant* has accepted the *Local Network Service Provider's* offer in accordance with paragraphs (b) and (c); ~~and~~
 - (2) a type 5, 6 or 7 *metering installation* connected to, or proposed to be connected to, the *Local Network Service Provider's network* in accordance with paragraphs (d) to (i).

Types 1 - 4 metering installations

- (b) A *Market Participant* may request in writing an offer from the *Local Network Service Provider* to act as the *responsible person* where a type 1, 2, 3 or 4 *metering installation* is, or is to be, installed.
- (c) If the *Local Network Service Provider* receives a request under paragraph (b), the *Local Network Service Provider* must:
 - (1) offer to act as the *responsible person* in respect of that *metering installation*; ~~and~~
 - (2) provide the *Market Participant* with the name of the *Metering Provider* and the name of the *Metering Data Provider* that would be engaged under clauses 7.2.5(a) and 7.2.5(c1), if requested by the *Market Participant*; and

(3) provide the *Market Participant* with the terms and conditions relating to the offer.

~~provide the *Market Participant* with the terms and conditions on which the offer is made.~~

no later than 15 *business days* after the *Local Network Service Provider* receives the written request from the *Market Participant*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

Types 5 -7 metering installations

- (d) The *Local Network Service Provider* may provide a *Market Participant* with a standard set of terms and conditions on which it will agree to act as the *responsible person* for a type 5, 6 or 7 *metering installation*.
- (e) Where the *Local Network Service Provider* has not provided the *Market Participant* with the standard set of terms and conditions referred to in paragraph (d), the *Market Participant* must request an offer from the *Local Network Service Provider* to act as the *responsible person* where a type 5, 6 or 7 *metering installation* is, or is to be, installed.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (f) The *Local Network Service Provider* must, within 15 *business days* of receipt of the request under paragraph (e), make an offer to a *Market Participant* setting out the terms and conditions on which it will agree to act as the *responsible person*.
- (g) The terms and conditions of an offer made under paragraphs (d) or (f) must:
 - (1) be fair and reasonable; and
 - (2) not have the effect of unreasonably discriminating between *Market Participants*, or between the customers of a *Market Participant*.
- (h) In relation to an offer made under paragraphs (d) or (f), a *Market Participant*:
 - (1) must accept the offer; or
 - (2) may dispute the offer in accordance with rule 8.2.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (i) If a *Market Participant* accepts the offer in accordance with paragraph (h), the *Local Network Service Provider*:

- (1) becomes the *responsible person*; and
- (2) must provide *AEMO* with the *NMI* for the *metering installation* within 10 *business days* of entry into a *connection agreement* under clause 5.3.7 with that *Market Participant*.

7.2.4 Joint metering installations

- (a) Where more than one *Market Participant* wishes to use a *metering installation* at a particular *connection point* for the purpose of satisfying its obligations, then each of them may separately enter into the agreements referred to in clause 7.2.3 or some or all of them may jointly enter into those agreements for the use of a shared *metering installation*.
- (b) Where more than one *Market Participant* uses a *metering installation* which is provided, installed and maintained by a person other than the *Local Network Service Provider*, they must agree and notify *AEMO* as to which of them is the *responsible person* for that *metering installation*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (c) In the absence of such agreement, *AEMO* may nominate one of the *Market Participants* to be the *responsible person* for that *metering installation*.
- (d) Where more than one *Market Participant* or *responsible person*, as the case may be, are affected by the same special site or technology related conditions as specified in clause 7.2.4A(c), either the affected *Market Participant* or the affected *responsible person* must notify *AEMO* of the *Metering Data Provider* that will provide the *metering data services* for the relevant *metering installation(s)*.
- (e) In the absence of such a notice specified in paragraph (d), *AEMO* may nominate a *Metering Data Provider* to provide the *metering data services* for those *metering installations*.

7.2.4A Special site or technology related conditions

- (a) Special site or technology related conditions are situations where *AEMO* determines that special arrangements are required to support the integrity of the collection and processing of *metering data* from nominated *metering installations*. These conditions include, but are not limited to, the following situations:
 - (1) a *transmission network connection point* where the *metering data* collection and/or processing arrangements from *metering installations* nominated in the document *published* in subparagraph (c)(1) require a single *Metering Data Provider*;
 - (2) a situation where two or more *metering points* are required to form a *metering installation* and the *metering data* determined from that *metering installation* is required to be identified as a virtual *NMI* in the *settlements process*;

- (3) a metering installation on an interconnector;
 - (4) a metering installation on the interconnection between adjacent distribution networks.
- (b) Special site or technology related conditions do not exist until they are described and published in the document specified in subparagraph (c)(1).
- (c) Where AEMO determines that special site or technology related conditions exist under paragraph (a), it must:
 - (1) describe and publish those special site or technology related conditions including the nomination of metering installations affected by those conditions in a document;
 - (2) notify responsible persons and financially responsible Market Participants of the availability of the document specified in subparagraph (1) at the time of its publication and each time that document is revised; and
 - (3) clarify any matters with the responsible person or the financially responsible Market Participant in order for those persons to choose a Metering Data Provider.
- (d) A responsible person or financially responsible Market Participant may make alterations to a metering installation and its metering data collection arrangements in order to remove its classification as a special site or technology related condition, in which case AEMO must remove that metering installation from the document specified in clause 7.2.4A(c)(1).
- (e) Where a financially responsible Market Participant chooses to engage a Metering Data Provider under clause 7.2.1A(b)(1), it must:
 - (1) only engage a Metering Data Provider who can fully accommodate any special site or technology related conditions described in the document published under subparagraph (c)(1);
 - (2) clarify any matters with AEMO in order to choose a Metering Data Provider for that metering installation that is mutually suitable to all parties.

7.2.5 Role of the responsible person

Engagement of a Metering Provider

- (a) A *responsible person* must for each *metering installation* for which it is responsible:
 - (1) engage a *Metering Provider* or *Metering Providers* –for the provision, installation and maintenance of that installation unless the *responsible person* is the *Metering Provider* or *Metering Providers*; or
 - (2) subject to the *metrology procedure*, allow another person to engage a *Metering Provider* to install that installation.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) The *responsible person* must:
- (1) enter into an agreement with a *Metering Provider* or *Metering Providers*:
 - (i) for the provision, installation and maintenance of the *metering installation* by the *Metering Provider* or *Metering Providers*, where the *responsible person* has engaged the *Metering Provider* or *Metering Providers* under paragraph (a)(1); or
 - (ii) for the maintenance of the *metering installation*, where another person has engaged the *Metering Provider* or *Metering Providers* under paragraph (a)(2); and
 - (2) provide *AEMO* with the relevant details of the *metering installation* as specified in schedule 7.5 within 10 *business days* of obtaining a *NMI* in accordance with 7.3.1(e).

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (c) The *responsible person* may elect to terminate an agreement entered into under paragraph (b)(1)(i) after the *metering installation* is installed and if such an agreement is terminated, the *responsible person* must enter into a new agreement with another *Metering Provider* or *Metering Providers* for the maintenance of the *metering installation*.

Engagement of a Metering Data Provider

(c1) The *responsible person* (other than when the *Transmission Network Service Provider* is the *responsible person* for a *metering installation*) must, for each *metering installation* for which it is responsible:

- (1) engage a *Metering Data Provider* (unless that person is a *Metering Data Provider*) to provide *metering data services* between the *metering installation* and the *metering database* and to parties entitled to that data under rule 7.7(a); and
- (2) if the *responsible person* is a *Local Network Service Provider*, provide the *financially responsible Market Participant* with the name of the *Metering Data Provider* that would be engaged under subparagraph (1).

Metering installations

- (d) The *responsible person* must, for each of its *metering installations*:

- (1) ensure that the installation is provided, installed and maintained in accordance with the Rules, the metrology procedure and procedures authorised under the Rules ~~metrology procedure~~;
- (2) ensure that the components, accuracy and testing of the installation complies with the requirements of the Rules, ~~and the metrology procedure~~ the metrology procedure and procedures authorised under the Rules;
- (3) ~~provide and maintain the security control of the installation~~ ensure that the security control of the installation is provided in accordance with clause 7.8.2;
- (4) where remote acquisition is used or is to be used for the collection of metering data ensure that a communications interface is installed and maintained to facilitate connection to the telecommunications network; ~~ensure that a communications link is installed and maintained to the telecommunications network and includes, where required for the connection to that telecommunications network, a modem and isolation equipment approved under telecommunications regulations~~;
- (5) ~~provide access to a telecommunications network to facilitate the requirement of rules 7.7 and 7.12(b);~~ [Deleted]
- (6) ~~provide to AEMO (when requested)~~, ensure that AEMO is provided (when requested) with the information specified in schedule 7.5 for new or modified installations;
- (7) not replace a device that is capable of producing *interval energy data* and is already installed in a *metering installation*, with a device that only produces *accumulated energy data* unless the *metrology procedure* permits the replacement to take place; and
- (8) [Deleted] ~~ensure for any type 5 metering installation where the annual flow of electricity through the connection point is greater than the type 5 accumulation boundary, that the metering data is extracted or emanates from the data logger as interval energy data; and~~
- (9) allow the alteration of the installation for which that person is responsible with another installation in accordance with clause 7.3.4.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (e) The *Market Settlements and Transfer Solution Procedures* may specify that an incoming *responsible person* is responsible for the *metering installation*:
 - (1) on the day that a *market load* transfers from one *financially responsible Market Participant* to another *financially responsible Market Participant* for the period within that day; or
 - (2) on any other day.

- (f) ~~[Deleted] AEMO must establish guidelines, in accordance with the Rules consultation procedures in relation to the role of the responsible person consistent with this Chapter 7.~~

Metering data services

- (g) The responsible person (other than when the Transmission Network Service Provider is the responsible person for a metering installation) must, for each metering installation for which it is responsible:
- (1) ensure that the Metering Data Provider chosen in paragraph (c1) accommodates any special site or technology related conditions determined by AEMO in accordance with clause 7.2.4A(c), and where necessary clarify any matters with AEMO in order to choose a Metering Data Provider for that metering installation that is mutually suitable to all parties;
 - (2) ensure that metering data services are provided in accordance with the Rules and procedures authorised under the Rules;
 - (3) ensure for any type 5 metering installation where the annual flow of electricity through the connection point is greater than the type 5 accumulation boundary, that interval energy data is collected; and
 - (4) arrange for the provision of relevant metering data to the Metering Data Provider if remote acquisition, if any, becomes unavailable.

7.2.6 [Deleted]

7.2.7 Registration of metering installations

- (a) AEMO must establish, maintain and *publish* a registration process to facilitate the application of this Chapter 7 to *Market Participants* and *Network Service Providers* in respect of:
- (1) new *metering installations*;
 - (2) modifications to existing *metering installations*; and
 - (3) decommissioning of *metering installations*,

including the provision of information on matters such as application process, timing, relevant parties, fees and *metering installation* details.

7.2.8 Market Settlement and Transfer Solution Procedures

- (a) AEMO, in consultation with *Registered Participants* in accordance with the *Rules consultation procedures*, must ~~develop~~establish, maintain –and *publish* *Market Settlement and Transfer Solution Procedures*.
- (b) AEMO may from time to time amend the *Market Settlement and Transfer Solution Procedures* in consultation with *Registered Participants* in accordance with the *Rules consultation procedures*. AEMO must *publish* any such amendment to the *Market Settlement and Transfer Solution Procedures*.

- (c) The *Market Settlement and Transfer Solution Procedures* may include roles and responsibilities for *Metering Providers* and *Metering Data Providers*.
- (d) All *Registered Participants*, ~~–*Metering Providers* and *Metering Data Providers*~~ and *Metering Providers* must comply with the *Market Settlement and Transfer Solution Procedures*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (e) If a *Registered Participant* ~~or *Metering Provider*~~ breaches the requirements of the *Market Settlement and Transfer Solution Procedures*, AEMO may send to that *Registered Participant* ~~or *Metering Provider*~~ a notice in writing setting out the nature of the breach.
- (f) If the *Registered Participant* ~~or *Metering Provider*~~ remains in breach for more than 5 *business days* after receipt of the notice from AEMO, AEMO must advise:
 - (1) the authority responsible for administering *jurisdictional electricity legislation* in the *participating jurisdiction* in which the *connection point* to which the breach relates is located; and
 - (2) the AER.

7.2A B2B Arrangements

7.2A.1 B2B e-Hub

AEMO must provide and operate a *B2B e-Hub*. As required by *B2B Procedures* and subject to clause 7.2A.4(k), *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* must use the *B2B e-Hub* for *B2B Communications*.

7.2A.2 Information Exchange Committee

- (a) AEMO must establish the *Information Exchange Committee* in accordance with the *Information Exchange Committee Election Procedures*.
- (b) The *Information Exchange Committee* must only be constituted by:
 - (1) three *Distribution Network Service Provider Members*;
 - (2) three *Local Retailer/Market Customer Members*; and
 - (3) two *Independent Members*.

Local Retailers and *Market Customers* together and *Distribution Network Service Providers* must, in relation to categories of *Members* in relation to which they are entitled to vote under the *Information Exchange Committee Election Procedures*, use their reasonable endeavours to ensure that the *Information Exchange Committee* is established in accordance with the *Information Exchange Committee Election Procedures*. Each *Member* must serve on the *Information Exchange Committee* for the term specified in the *Information Exchange Committee Election*

Procedures and must only be removed or replaced in accordance with the *Information Exchange Committee Election Procedures*.

- (c) *Local Retailers, Market Customers* and *Distribution Network Service Providers* must ensure that the *Information Exchange Committee Election Procedures* include provisions in respect of *Member* qualifications, procedures for voting for *Members*, the term of a *Member*, determination and publication of results of elections and the removal and resignation of a *Member*.
- (d) The first *Information Exchange Committee Election Procedures* must be *published* by the time this clause 7.2A.2 comes into operation. The *Information Exchange Committee Election Procedures* may only be amended in accordance with the procedure set out in the *Information Exchange Committee Election Procedures* and with the support of:
 - (1) not less than 75% of all *Registered Participants* registered by AEMO as *Distribution Network Service Providers* under clause 2.5.1; and
 - (2) not less than 75% of that class of *Registered Participants* comprising:
 - (A) *Registered Participants* who are included on the list of *Local Retailers* published by AEMO; and
 - (B) *Market Customers* who are not included on the list of *Local Retailers* published by AEMO and who are not a *related body corporate* of a *Local Retailer*.

Neither a *Registered Participant* nor AEMO is obliged to comply with an amendment to the *Information Exchange Committee Election Procedures* unless that amendment is made in accordance with this clause. AEMO must *publish* the current version of the *Information Exchange Committee Election Procedures*.

- (e) A *Registered Participant* must ensure that a person it nominates as a *Member* for a category satisfies the requirements for that particular category of *Member* as set out in the *Information Exchange Committee Election Procedures*.
- (f) The first *Information Exchange Committee Operating Manual* must be *published* by the time this clause 7.2A.2 comes into operation. The *Information Exchange Committee Operating Manual* may only be amended in accordance with the procedure set out in the *Information Exchange Committee Election Procedures* and with the support of:
 - (1) not less than 75% of all *Registered Participants* registered by AEMO as *Distribution Network Service Providers* under clause 2.5.1; and
 - (2) not less than 75% of that class of *Registered Participants* comprising:
 - (A) *Registered Participants* who are included on the list of *Local Retailers* published by AEMO; and
 - (B) *Market Customers* who are not included on the list of *Local Retailers* published by AEMO and who are not a *related body corporate* of a *Local Retailer*.

Neither a *Registered Participant* nor AEMO is obliged to comply with an amendment to the *Information Exchange Committee Operating Manual* unless that amendment is made in accordance with this clause. AEMO must *publish* the current version of the *Information Exchange Committee Operating Manual*.

- (g) The functions and powers of the *Information Exchange Committee* include:
- (1) developing, consulting on and making an *Information Exchange Committee Recommendation*;
 - (2) managing the ongoing development of the *B2B Procedures* and any *changes* to them;
 - (3) establishing the *Information Exchange Committee Working Groups*;
 - (4) developing, consulting on and approving the *Information Exchange Committee Works Programme*;
 - (5) reviewing and considering work completed by the *Information Exchange Committee Working Groups*;
 - (6) developing proposed amendments to the *Information Exchange Committee Election Procedures*; and
 - (7) developing proposed amendments to the *Information Exchange Committee Operating Manual*.
- (h) The *Information Exchange Committee* must provide to AEMO the current version of the *B2B Procedures* and the *Information Exchange Committee Works Programme*.
- (i) AEMO must *publish* the *B2B Procedures* and the *Information Exchange Committee Works Programme* provided to it by the *Information Exchange Committee*.
- (j) The *Information Exchange Committee*, AEMO, *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* must comply with the *Information Exchange Committee Election Procedures* and the *Information Exchange Committee Operating Manual*.
- (k) The *Information Exchange Committee* must meet at least once every three months.
- (l) The quorum for a meeting of the *Information Exchange Committee* is five *Members* comprising two *Distribution Network Service Provider Members*, two *Local Retailer/Market Customer Members* and one *Independent Member*.
- (m) A decision of the *Information Exchange Committee* is not valid and enforceable unless it is made as follows:
- (1) an *Information Exchange Committee Recommendation* requires the support of six or more *Members*;

- (2) any decision that a proposal under clause 7.2A.3(a) should not be considered further after initial consideration under clause 7.2A.3(b), and any decision to not recommend *B2B Procedures* or a *change* to the *B2B Procedures* for approval by *AEMO* requires the support of six or more *Members*;
 - (3) any decision to approve the *Information Exchange Committee Works Programme* requires the support of six or more *Members*; and
 - (4) any other decision by the *Information Exchange Committee* requires the support of five or more *Members*.
- (n) Each *Member* in performing his or her duties or in exercising any right, power or discretion must have regard to the *B2B Objective* and the *B2B Principles* and must:
- (1) at all times act honestly;
 - (2) exercise the degree of care and diligence that a reasonable person in a like position would exercise;
 - (3) not make improper use of information acquired by virtue of his or her position to gain, directly or indirectly, an advantage for himself or herself, or the *Registered Participants* by which he or she is employed and/or which nominated him or her to be a *Member*; and
 - (4) not make improper use of his or her position to gain, directly or indirectly, an advantage for himself or herself or the *Registered Participants* by which he or she is employed and/or which nominated him or her to be a *Member*.
- (o) Subject to clause 7.2A.2(n), a *Distribution Network Service Provider Member* may take into account the interests of *Distribution Network Service Providers* in performing his or her duties or in exercising any right, power or discretion.
- (p) Subject to clause 7.2A.2(n), a *Local Retailer/Market Customer Member* may take into account the interests of *Local Retailers* and *Market Customers* in performing his or her duties or in exercising any right, power or discretion.
- (q) The *Information Exchange Committee* must prepare the *Information Exchange Committee Annual Report* for the period ended 31 December in the first calendar year following the establishment of the *Information Exchange Committee* and the year ended 31 December in each year thereafter. The *Information Exchange Committee* must provide the *Information Exchange Committee Annual Report* to *AEMO* by the following 31 March and *AEMO* must *publish* that *Information Exchange Committee Annual Report*.
- (r) The *Information Exchange Committee Annual Report* must contain the information required by the *Information Exchange Committee Operating Manual*.
- (s) By 28 February each year the *Information Exchange Committee* must prepare a draft budget for the following *financial year* in a form which is consistent with the budget procedures of *AEMO*. Following discussion with *AEMO* the *Information Exchange Committee* must prepare a budget by 31 March and provide that budget to *AEMO*. When *AEMO* *publishes* its budget pursuant to clause 2.11.3, *AEMO*

must advise the *Information Exchange Committee* of the final budget for the *Information Exchange Committee* for that *financial year*.

7.2A.3 Method of making and changing B2B Procedures

- (a) *AEMO*, a *Local Retailer*, a *Market Customer* or a *Distribution Network Service Provider* may propose *B2B Procedures*, or a *change* to the *B2B Procedures*, to the *Information Exchange Committee*. The proposal must be submitted in writing to the *Information Exchange Committee* and must provide details of the proposal and supporting information, including reasons for any *change* or *B2B Procedure*.
- (b) Within 25 *business days* of receipt by the *Information Exchange Committee* of a proposal under clause 7.2A.3(a), the *Information Exchange Committee* must meet to determine whether on a *prima facie* basis making new *B2B Procedures* and/or *changing* the *B2B Procedures* is warranted having regard to the *B2B Objective* and the *B2B Principles*.
- (c) If, after its consideration under clause 7.2A.3(b), the *Information Exchange Committee* decides that the proposal made under clause 7.2A.3(a) should not be considered further, the *Information Exchange Committee* must within five *business days* provide written reasons for that decision to whichever of *AEMO*, the *Local Retailer*, *Market Customer* or *Distribution Network Service Provider* who made the proposal.
- (d) If, after its consideration under clause 7.2A.3(b), the *Information Exchange Committee* decides that the proposal made under clause 7.2A.3(a) should be considered further, the *Information Exchange Committee* must develop the proposal into a *B2B Proposal* (which may differ from the proposal originally made) and an accompanying *B2B Procedures Change Pack* for consultation. The *Information Exchange Committee* must seek *AEMO's* advice on whether a conflict with the *Market Settlement and Transfer Solution Procedures* arises from the *B2B Proposal* and include any such advice in the *B2B Procedures Change Pack*.
- (e) The *Information Exchange Committee* must comply with the *Rules consultation procedures* in relation to the *B2B Proposal*. For the purposes of rule 8.9(b), the nominated persons to whom notice must be given are *Local Retailers*, *Market Customers*, *Distribution Network Service Providers* and *AEMO*. For the purposes of the notice, the particulars of the matters under consultation must include a copy of the *B2B Procedures Change Pack*.
- (f) *AEMO* must *publish* the notice of consultation within 3 *business days* of its receipt and must notify all *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* of the consultation.
- (g) In addition to the matters which rule 8.9(g) requires be included in the draft report, the draft report must contain details of the *Information Exchange Committee's* consideration of the *B2B Objective* and each of the *B2B Principles* and how the *Information Exchange Committee* has considered each submission made having regard to the *B2B Objective* and the *B2B Principles*.
- (h) In addition to the matters which rule 8.9(k) requires be included in the final report, the final report must contain details of the *Information Exchange Committee's*

consideration of the *B2B Objective* and each of the *B2B Principles* and how the *Information Exchange Committee* has considered each submission having regard to the *B2B Objective* and the *B2B Principles*.

- (i) The *Information Exchange Committee* can conclude not to recommend the proposed *B2B Procedures* be made or not to recommend a *change* to the *B2B Procedures*. Alternatively, the *Information Exchange Committee* may make an *Information Exchange Committee Recommendation* and in doing so may recommend a different *B2B Procedure* or *change* to the *B2B Procedures* from that originally proposed under clause 7.2A.3(a). A conclusion not to recommend the proposed *B2B Procedures* be made or not to recommend a *change* to the *B2B Procedures*, or the making of an *Information Exchange Committee Recommendation*, must be included in the final report required under rule 8.9(k).
- (j) In coming to a conclusion not to recommend the proposed *B2B Procedures* or not to recommend a *change* to the *B2B Procedures*, or in making an *Information Exchange Committee Recommendation*, the *Information Exchange Committee* must seek to achieve the *B2B Objective* and, in seeking to achieve the *B2B Objective*, must have regard to the *B2B Principles*. To the extent of any conflict between the *B2B Principles*, the *Information Exchange Committee* may determine the manner in which those principles can best be reconciled or which of them should prevail.
- (k) If the *Information Exchange Committee* recommends not to make the proposed *B2B Procedures* or not to *change* the *B2B Procedures*, AEMO must take no further action in respect of the proposal. If the *Information Exchange Committee* makes an *Information Exchange Committee Recommendation*, AEMO must consider the *Information Exchange Committee Recommendation* and must approve that *Information Exchange Committee Recommendation*, unless it concludes that:
 - (1) the *Information Exchange Committee* has failed to have regard to the *B2B Objective* and/or the *B2B Principles*;
 - (2) the *Information Exchange Committee Recommendation* would conflict with the *Market Settlement and Transfer Solution Procedures*; or
 - (3) the *Information Exchange Committee* has not followed the *Rules consultation procedures* (as supplemented by this clause 7.2A.3).
- (l) In considering an *Information Exchange Committee Recommendation*, AEMO must not consider:
 - (1) the manner in which the *Information Exchange Committee* considered the *B2B Objective* and the *B2B Principles* or the weight given by the *Information Exchange Committee* to the different *B2B Principles* or the balancing between them; or
 - (2) the merits of the *Information Exchange Committee Recommendation*.
- (m) AEMO must not amend the *Information Exchange Committee Recommendation* and must not conduct any further consultation on the *Information Exchange Committee Recommendation* prior to making its *B2B Decision*.

- (n) *AEMO* must *publish* and make available on its website its *B2B Decision*, with reasons, within 10 *business days* of receiving an *Information Exchange Committee Recommendation* from the *Information Exchange Committee*.
- (o) If *AEMO* decides not to approve an *Information Exchange Committee Recommendation*, the reasons for the *B2B Decision* which are to be *published* and made available in accordance with clause 7.2A.3(n) must include an explanation of the following, where applicable:
 - (1) to which of the *B2B Objective* and/or the *B2B Principles* *AEMO* considers the *Information Exchange Committee* failed to have regard;
 - (2) how the *Information Exchange Committee Recommendation* would give rise to a conflict with the *Market Settlement and Transfer Solution Procedures*; or
 - (3) how the *Information Exchange Committee* did not follow the *Rules consultation procedures* (as supplemented by this clause 7.2A.3).

7.2A.4 Content of the B2B Procedures

- (a) The *B2B Procedures* may provide for *B2B Communications*.
- (b) For each *B2B Communication*, the *B2B Procedures* must contain:
 - (1) the required *B2B Data* inputs and *B2B Data* outputs;
 - (2) the required business process flows and related timing requirements;
 - (3) the required content and format;
 - (4) the required delivery method; and
 - (5) the back-up delivery method to be used where the required delivery method cannot be used.
- (c) The *B2B Procedures* may include obligations in relation to the information to be maintained and provided to support *B2B Communications*.
- (d) For each *B2B Communication* the *B2B Procedures* may also include:
 - (1) details for testing and certification;
 - (2) provisions relating to contingency arrangements;
 - (3) examples of how a *B2B Communication* may operate in practice; and
 - (4) the method for dealing with a dispute (which may include provisions deferring the use of the dispute resolution procedures in the *Rules* and access to the courts).
- (e) The *B2B Procedures* or a *change* to the *B2B Procedures* must also include a date for the commencement of the *B2B Procedures* or the *change*. That date must be not less than 10 *business days* after the related *B2B Decision* is *published*. The

Information Exchange Committee may extend that date following consultation with *AEMO* and affected *Registered Participants*. If the date is extended by the *Information Exchange Committee*, the *Information Exchange Committee* must provide *AEMO* with that date and *AEMO* must *publish* that date.

- (f) A *change* to the *B2B Procedures* may also include provisions relating to a date for the end of a process related to a *B2B Communication*. That date may be after the date of commencement of the *change* and may be left to the discretion of the *Information Exchange Committee*. If the date is set by the *Information Exchange Committee*, the *Information Exchange Committee* must provide *AEMO* with that date and *AEMO* must *publish* that date.
- (g) The *B2B Procedures* may be constituted by one or more separate documents.
- (h) The *B2B Procedures* may include roles and responsibilities for *Metering Providers* [and Metering Data Providers](#).
- (i) Subject to the *Information Exchange Committee* following the requirements placed upon it in the *Rules* in relation to the *B2B Procedures*, *Local Retailers*, *Market Customers*, *Distribution Network Service Providers*, *AEMO*, [Metering Providers and Metering Data Providers](#) ~~and Metering Providers~~ must comply with the *B2B Procedures*.
- (k) *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* may, on such terms and conditions as agreed between them, communicate a *B2B Communication* on a basis other than as set out in the *B2B Procedures*, in which case the parties to the agreement need not comply with the *B2B Procedures* to the extent that the terms and conditions agreed between them are inconsistent with the *B2B Procedures*.
- (l) *B2B Data* is *confidential information* and may only be disclosed as permitted by the *Rules*.
- (m) If a *change* to the *B2B Procedures* is of a minor or procedural nature or is necessary to correct a manifest error in the *B2B Procedures*, the *Information Exchange Committee* may recommend the *change* to *AEMO* and need not consult on the *change* in accordance with the *Rules consultation procedures*. Clauses 7.2A.3(i) to (o) (inclusive) and clauses 7.2A.4(e) and (f) apply to such a *change* (with any necessary modifications). In addition to *publishing* its *B2B Decision* in relation to such a *change*, *AEMO* must notify all *Local Retailers Market Customers* and *Distribution Network Service Providers* of the *change*.

7.2A.5 Transition of B2B Communications from the Market Settlement and Transfer Solution Procedures

- (a) At 9.00am (EST), on the day immediately following the day on which the *Information Exchange Committee* is established pursuant to clause 7.2A.2(a) ("**transition day**"):
 - (1) those *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures" are deemed to have been the subject of an *Information Exchange Committee Recommendation* under clause 7.2A.3(i) and to have been approved by *NEMMCO* in accordance

with clause 7.2A.3(k), and are deemed to be *B2B Procedures*. Such a deemed *Information Exchange Committee Recommendation* and deemed *B2B Decision* are not within the scope of clauses 8.2.5(d1) to (d4) (see clause 8.2A.2(i)); and

- (2) any proposed new *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures", or a change to any *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures", which is the subject of consultation by *NEMMCO* in accordance with the *Rules consultation procedures* on the transition day is deemed to be a valid *B2B Proposal* and, to the extent the *Rules consultation procedures* have been complied with by *NEMMCO*, is deemed to comply with the consultation requirements detailed in clause 7.2A.3(e).
- (b) All things done in relation to a *B2B Communication* the subject of those *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures" immediately before the transition day must under the *B2B Procedures* continue to have the same status, operation and effect as they would have under the *Market Settlement and Transfer Solution Procedures* entitled "MSATS Procedures: B2B Procedures". In particular, this clause 7.2A.5 does not disturb the status, operation or effect of any *B2B Communication* or any proceeding, liability, rights or other matter or thing made, done, effected, obtained, given, accrued, incurred, acquired, existing or continuing before the transition day.

7.2A.6 Cost Recovery

- (a) The costs of the development of the *B2B Procedures*, the costs of the establishment and operation of the *Information Exchange Committee* (including the engagement costs of specialist advisers, and the remuneration and payment of the reasonable expenses of the *Independent Members*), all of which must be set out in the budget prepared by the *Information Exchange Committee* pursuant to clause 7.2A.2(s) and the *Information Exchange Committee Annual Report*, and the operational costs associated with any service provided by *AEMO* to facilitate *B2B Communications* (including providing and operating a *B2B e-Hub*) must be paid by *AEMO* in the first instance and recouped by *AEMO* as *Participant fees*.
- (b) Subject to clause 7.2A.6(a), the cost of any *Member* (other than an *Independent Member*) and involvement of individuals in the *Information Exchange Committee Working Groups* is not to be borne by *AEMO*.
- (c) The cost to a *Local Retailer*, *Market Customer* and *Distribution Network Service Provider* of implementing and maintaining the necessary systems and processes to ensure compliance with *B2B Procedures* must be met by that *Local Retailer*, *Market Customer* or *Distribution Network Service Provider*.

7.3 Metering Installation Arrangements

7.3.1A Metering Installation Requirements

- (a) Each *connection point* must have a *metering installation*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) *Energy data* is to be based on units of watthour (**active energy**) and where required varhour (**reactive energy**).

7.3.1 Metering installation components

- (a) A metering installation unless it is classified as an unmetered connection point in accordance with schedule 7.2 must:

- (1) either contain a device that has a visible or an equivalently accessible display of the cumulative total *energy* measured by that *metering installation* (at a minimum) ~~or, be classified as an unmetered connection point in accordance with schedule 7.2 and in which case such a device is not required;~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (2) be accurate in accordance with clause 7.3.4;

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (3) for metering installations types 1, 2, 3, or 4, have electronic data transfer facilities from the metering installation to the metering data services database ~~have electronic data transfer facilities from the metering installation to the metering database in accordance with clause 7.3.5;~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (4) include a communications interface to meet the requirements of clause 7.2.5(d)(4) ~~contain a communications link in accordance with clause 7.2.5(d)(4);~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (5) be secure in accordance with rule 7.8;

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (6) record energy data in a manner that enables metering data to be collated in accordance with clause 7.11.5~~have electronic data recording facilities such that active energy can be collated in accordance with clause 7.9.3;~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

Note:

~~For the avoidance of doubt, clause 7.3.1(a)(6) relates to a metering installation and not a meter.~~

- (7) be capable of separately recording energy data for energy flows in each direction where bi-directional active energy flows occur or could occur~~be capable of separately registering and recording flows in each direction where bi-directional active energy flows occur;~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (8) have a measurement element for active energy and if required in accordance with schedule 7.2 a measurement element for reactive energy, both of which are recorded~~if a device is used in accordance with subparagraph (1), have a measurement element for active energy and if required in accordance with schedule 7.2 a measurement element for reactive energy, both of which have an internal or external data logger;~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (9) ~~[Deleted] be capable of delivering data from the site of the metering installation to the metering database;~~

Note

~~This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

- (10) include facilities for storing interval energy data for a period of at least 35 days if the metering installation is registered as a type 1, 2, 3 or 4 metering installation~~include facilities on site for storing the interval energy data for a period of at least 35 days if the communications link has a capability for actual metering data as required by clause 7.11.1(b) from the site of the~~

~~metering point and the metering installation includes the measurement element(s) and the data logger at the same site;~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (11) include facilities for storing interval energy data for a period of at least 200 days or such other period as specified in the metrology procedure if the metering installation is registered as a type 5 metering installation; ~~and include facilities on site for storing the interval energy data for a period of at least 200 days or such other period as specified in the metrology procedure if the communications link does not have a capability for actual metering data as required by clauses 7.11.1(c) or (d) and the metering installation includes the measurement element(s) and the data logger at the same site;~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (12) [Deleted] ~~include metering installation database facilities for storing energy data for a period of at least 35 days where the metering installation provides for a remote data logger;~~

Note

~~This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

- (13) [Deleted] ~~include metering installation database facilities for storing energy data for a period of at least 35 days where metering data is determined for an unmetered connection point; and~~

Note

~~This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

- (14) if a type 6 metering installation, include facilities capable of continuously recording by a visible display, the total accumulated energy supplied through it over a period of at least 12 months, in accordance with subparagraph (1).

(b) A metering installation may consist of combinations of:

- (1) a current transformer;
- (2) a voltage transformer;
- (3) secure and protected wiring from the current transformer and the voltage transformer to the meter;

- (4) ~~[Deleted] an appropriately constructed panel on which the meter and the data logger are mounted;~~
 - (5) ~~[Deleted] a meter and a data logger which may be either internal or external to the meter where a data logger may be located at a site remote from the site of a meter and a data logger may consist of a metering installation database that is under the control of the Metering Provider;~~
 - (6) communication interface equipment such as a modem, isolation requirements, telephone service, radio transmitter and data link equipment;
 - (7) ~~[Deleted] one or more communications links which facilitate the collection of energy data from a data logger or a measurement element so as to enable a remote interface to the telecommunications network to be established;~~
 - (8) ~~[Deleted] data processing facilities, including algorithms for the preparation of a load pattern(s), for the conversion of accumulated energy data or estimated energy data into metering data;~~
 - (9) ~~[Deleted] techniques for the estimation of market loads in accordance with schedule 7.2;~~
 - (10) auxiliary electricity supply to the meter;
 - (11) an alarm circuit and monitoring facility;
 - (12) a facility to keep the metering installation secure from interference;
 - (13) test links and fusing;
 - (14) summation equipment; or
 - (15) several metering points to derive the metering data for a connection point.
- (c) Either a *Local Network Service Provider* or a *Market Participant* may, with the agreement of the *responsible person* (which cannot be unreasonably withheld), arrange for a *metering installation* to contain features in addition to, or which enhance, the features specified in paragraph (b).
- (d) The *responsible person* for a *metering installation* must apply to the *Local Network Service Provider* for a National Metering Identifier (*NMI*).
- (e) The *Local Network Service Provider* must issue for each *metering installation* a unique *NMI*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (f) The *responsible person* must register the *NMI* with *AEMO* in accordance with procedures from time to time specified by *AEMO*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(g) Where a *metering installation* is used for operational purposes in addition to metrology purposes, the *responsible person* must:

(1) use reasonable endeavours to ensure that there will be no infringement of the requirements of the *Rules*;

(2) co-ordinate with the persons who use the *metering installation* for such other purposes; and

(3) ensure that the *metering installation* must comply with the requirements for operational *metering* as detailed in Chapter 4 of the *Rules*.

~~Where a *metering installation* is used for purposes in addition to the provision of *metering data* to AEMO then:~~

~~(1) that use must not cause an infringement of the requirements of the *Rules*;~~

~~(2) the *responsible person* must co-ordinate with the persons who use the *metering installation* for such other purposes; and~~

~~(3) the *metering installation* must comply with the requirements for operational *metering* as detailed in Chapter 4 of the *Rules*.~~

(h) A *Metering Provider* is entitled to physical access to the site of a *metering installation* in accordance with clause 5.3.7(g) and schedule 5.6.

Requirements for metering installations for non-market generating units

(i) In addition to the requirements in paragraphs (a) to (g), a *metering installation* for a *non-market generating unit* must:

(1) be capable of separately registering and recording flows in each direction where bi-directional *active energy* flows occur or could occur;

(2) where payments for the purchase of electricity *generated* by that unit are based on different rates according to the time of the *day*, be capable of recording *interval energy data*;

(3) where a *current transformer*, a *voltage transformer* or a *measurement element* for *reactive energy*, is installed, meet the requirements in schedule 7.2 for the type of *metering installation* appropriate to that *connection point*;

(4) for units with a *nameplate rating* greater than 1 MW, meet:

(i) the accuracy requirements specified in schedule 7.2; and

(ii) the measurement requirements in paragraph (a)(8);

(5) in relation to new accumulation *metering equipment* ~~*metering equipment*~~ for units with a *nameplate rating* equal to or less than 1 MW, meet the

minimum standards for *active energy* class 1.0 watt-hour or 2.0 watt-hour *meters* in accordance with clause S7.2.6.1(f);

- (6) for units with a *nameplate rating* of equal to or less than 1 MW that are capable of recording *interval energy*, meet the minimum standards of accuracy for the *active energy meter* in accordance with schedule 7.2 for a type 3 or 4 *metering installation* which is based on projected sent out annual *energy* volumes; and
- (7) if reasonably required by the *Distribution Network Service Provider* (where such a request must be in writing and with reasons), after taking into account the size of the *generating unit*, its proposed role and its location in the *network*, have the *active energy* and *reactive energy* measured where the unit has a *nameplate rating* of less than 1 MW.

7.3.2 Connection and metering point

- (a) The *responsible person* must ensure that:
 - (1) the ~~revenue~~-metering point is located as close as practicable to the *connection point*; and
 - (2) any *instrument transformers* required for a *check metering installation* are located in a position which achieves a mathematical correlation with the ~~revenue~~-metering data.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) The *Market Participant*, the *Local Network Service Provider* and *AEMO* must use their best endeavours to agree to adjust the *metering data* which is recorded in the *metering database* to allow for physical losses between the *metering point* and the relevant *connection point* where a *meter* is used to measure the flow of electricity in a power conductor.
- (c) Where a *Market Network Service Provider* installs a *two-terminal link* between two *connection points*, *AEMO* in its absolute discretion may require a *metering installation* to be installed in the facility at each end of the *two-terminal link*. Each of these *metering installations* must be separately assessed to determine the requirement for *check metering* in accordance with schedule 7.2.

7.3.3 ~~Use of metering data~~

- ~~(a) Revenue metering data must be used by AEMO as the primary source of metering data for billing purposes.~~
- ~~(b) Check metering data, where available, must be used by AEMO for:
 - ~~(1) validation;~~
 - ~~(2) substitution; and~~~~

~~(3) — account estimation,~~

~~of revenue metering data as required by clause 7.9.4.~~

7.3.4 Metering installation types, accuracy and meter churn ~~Metering installation types and accuracy~~

- (a) The type of *metering installation* and the accuracy requirements for a *metering installation* which must be installed in respect of each *connection point* are to be determined in accordance with schedule 7.2.
- (b) A *check metering installation* is not required to have the degree of accuracy required of a ~~revenue~~ *metering installation* but must have a mathematical correlation with the ~~revenue~~ *metering installation*, and be consistent with the requirements of schedule 7.2.
- (c) *Metering installations* in use at *market commencement* must conform with the provisions of Chapter 9.
- (d) The accuracy of a type 6 *metering installation* must be in accordance with regulations issued under the *National Measurement Act* or, in the absence of any such regulations, with the *metrology procedure*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (e) Subject to the *metrology procedure* and this clause 7.3.4, a *financially responsible Market Participant* or a *Local Network Service Provider* may make arrangements with the *responsible person* to alter any type 5, 6 or 7 *metering installation*.
- (f) A *Local Network Service Provider* may alter a *metering installation* in accordance with paragraph (e) to make it capable of *remote acquisition* where the *Local Network Service Provider* decides that operational difficulties reasonably require the *metering installation* to be capable of *remote acquisition*.
- (g) An alteration of a *metering installation* by a *Local Network Service Provider* in accordance with paragraph (f), does not alter the classification of that installation to a type 4 *metering installation*.
- (h) For the purposes of paragraph (f), operational difficulties may include locational difficulties where the *metering installation* is:
 - (1) at a site where access is difficult; or
 - (2) on a remote rural property.
- (i) A type 5, 6 or 7 *metering installation* must not be altered by the *financially responsible Market Participant* under paragraph (e) until the transfer of the relevant *market load* has been effected by AEMO in accordance with the *Market Settlement and Transfer Solution Procedures*.

- (j) AEMO must establish, maintain and publish procedures for the financially responsible Market Participant to consider in managing the alteration of a metering installation where one or more devices are to be replaced (the 'meter churn procedures'); ~~AEMO must develop and publish in accordance with the Rules consultation procedures, guidelines for the financially responsible Market Participant to consider in managing the alteration of a metering installation where one or more devices are to be replaced (meter churn guidelines).~~
- (k) AEMO may from time to time and in accordance with the *Rules consultation procedures*, amend or replace the meter churn procedures ~~meter churn guidelines~~ referred to in paragraph (j).
- (l) AEMO must develop and publish the first meter churn procedures under paragraph (j) by 1 January 2008, and there must be such procedures available at all times after that date. ~~AEMO must develop and publish the first meter churn guidelines under paragraph (j) by 1 January 2008 and there must be such guidelines available at all times after that date.~~
- (m) A *financially responsible Market Participant* who is not the *responsible person* for a *metering installation* that is altered under paragraph (e), must:
- (1) consider and manage meter churn consistently with the meter churn procedures ~~meter churn guidelines~~ developed by AEMO under paragraph (j); and
 - (2) advise the *responsible person* of the proposed date of alteration:
 - (i) prior to that alteration being made; and
 - (ii) in accordance with any time specified in the *Market Settlement and Transfer Solution Procedures*.

7.3.5 ~~Data collection system~~ Deleted

- (a) ~~[Deleted]~~
- (b) ~~AEMO must establish processes for the collection of metering data for the metering database from each metering installation in accordance with the requirements of rule 7.9.~~
- (c) ~~AEMO may use agency data collection systems to collect metering data, process metering data into settlements ready data and to transfer metering data to the metering database.~~
- (d) ~~AEMO may obtain metering data directly from a metering installation for the settlements process.~~
- (e) ~~Rules and protocols in respect of use of a data collection system and its connection to a metering system must be approved by AEMO and AEMO must not unreasonably withhold such approval.~~
- (f) ~~Data formats used in respect of a data collection system must allow access to metering data at a metering installation and from the metering database.~~

Note

~~This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

7.3.6 Payment for metering [Deleted]

7.3.7 Meter installation malfunctions

- (a) Unless an exemption is obtained by the responsible person from AEMO under this clause 7.3.7, the responsible person must in respect of a connection point with:
- (1) a type 1, 2 and 3 metering installation, if a metering installation malfunction occurs to the metering installation, cause repairs to be made to it as soon as practicable but no later than 2 business days after the responsible person has been notified of the metering installation malfunction; or
 - (2) a metering installation other than the installations referred to in subparagraph (1), if a metering installation malfunction occurs to the metering installation, cause repairs to be made to it as soon as practicable but no later than 10 business days after the responsible person has been notified of the metering installation malfunction.
- (b) AEMO must establish, maintain and publish a procedure applicable to the provision of exemptions for the purpose of paragraph (a).
- (c) If an exemption is provided by AEMO under this clause 7.3.7 then the Metering Provider must provide AEMO with a plan for the rectification of the metering installation.
- (d) A Registered Participant, Metering Provider or Metering Data Provider who becomes aware of a metering installation malfunction of a metering installation that cannot be rectified within the applicable timeframes as specified in paragraph (a) must notify the responsible person of the metering installation malfunction within 1 business day.

7.3A Payment for Metering Provision and Metering Data Services

- (a) Subject to paragraph (b), the financially responsible Market Participant is responsible for payment of all costs associated with:
- (1) the provision, installation, maintenance, routine testing and inspection of the metering installation;
 - (2) the provision of metering data services;
 - (3) the cost of preparing settlements ready data where such costs will not be recovered by AEMO in accordance with paragraph (c);
 - (4) the cost of additions and enhancements to metering installations undertaken in accordance with clause 7.3.1(c); and
 - (5) the cost of additional data services that exceed the minimum requirements in accordance with clause 7.11.2(b).

- (b) If a *responsible person* allows another person to engage a *Metering Provider* to install a *metering installation* in accordance with clause 7.2.5(a)(2), the *financially responsible Market Participant* is not responsible for the payment of the costs of installation of the relevant *metering installation* under paragraph (a).
- (c) When *AEMO* is required to undertake functions associated with a *metering installation* in accordance with the requirements of the *metrology procedure* (which could include the preparation and application of a profile), *AEMO*'s cost is to be recovered through *Participant fees* in accordance with a budget prepared under clause 2.11.3(b)(3) unless the *metrology procedure* specifies an alternative method of cost recovery, in which case *AEMO* must not recover the costs through *Participant fees*.
- (d) Subject to paragraph (a), any costs incurred in gaining access to *metering data* must be paid by the party who accessed the *metering data*.
- (e) The cost of requisition testing and audits must be paid by the party requesting the test or audit, except where the *metering installation* is shown not to comply with this Chapter 7, in which case the *responsible person* in relation to that *metering installation* must bear the cost.
- (f) Paragraph (a) does not apply to the recovery of costs by a *Local Network Service Provider* that are associated with type 5, 6 or 7 *metering installations*, to the extent that these costs can be recovered by the *Local Network Service Provider* in accordance with a determination made by the *AER*.
- (g) Where:
- (1) a *financially responsible Market Participant* alters a type 5, 6 or 7 *metering installation* under clause 7.3.4 that leads to a change in the classification of that *metering installation*; and
 - (2) the *Local Network Service Provider* is no longer the *responsible person* for that *metering installation*,
- the parties must negotiate in good faith to ensure the *Local Network Service Provider* is reasonably compensated for the alteration to the *metering installation*.
- ~~(a) Subject to paragraph (b), the financially responsible Market Participant is responsible for payment of all costs associated with the provision, installation, maintenance, routine testing and inspection of the metering installation and includes:~~
- ~~(1) the cost of providing *metering data* and *settlements ready data* to the *Local Network Service Provider* and to the *Local Retailer* to enable these parties to fulfill their obligations under the *Rules*;~~
 - ~~(2) the cost of providing *metering data* to *AEMO*;~~
 - ~~(3) the cost of preparing *settlements ready data* where such costs will not be recovered by *AEMO* in accordance with paragraph (c); and~~
 - ~~(4) the cost of additions and enhancements to *metering installations* undertaken in accordance with clause 7.3.1(c).~~

- ~~(b) If a *responsible person* allows another person to engage a *Metering Provider* to install a *metering installation* in accordance with clause 7.2.5(a)(2), the *financially responsible Market Participant* is not responsible for the payment of the costs of installation of the relevant *metering installation* under paragraph (a).~~
- ~~(c) When *AEMO* is required to undertake functions associated with a *metering installation* in accordance with the requirements of the *metrology procedure* (which could include the preparation and application of a profile), *AEMO's* cost is to be recovered through *Participant fees* in accordance with a budget prepared under clause 2.11.3(b)(3) unless the *metrology procedure* specifies an alternative method of cost recovery, in which case *AEMO* must not recover the costs through *Participant fees*.~~
- ~~(d) Subject to paragraph (a), any costs incurred in gaining access to *metering data* must be paid by the party who obtained the *metering data*.~~
- ~~(e) The cost of requisition testing and audits must be paid by the party requesting the test or audit, except where the *metering installation* is shown not to comply with this Chapter 7, in which case the *responsible person* in relation to that *metering installation* must bear the cost.~~
- ~~(f) Paragraph (a) does not apply to the recovery of costs by a *Local Network Service Provider* that are associated with the provision, installation, maintenance, routine testing and inspection of type 5, 6 or 7 *metering installations*, to the extent that these costs can be recovered by the *Local Network Service Provider* in accordance with a determination made by the *AER*.~~
- ~~(g) Where:~~
- ~~(1) a *financially responsible Market Participant* alters a type 5, 6 or 7 *metering installation* under clause 7.3.4 that leads to a change in the classification of that *metering installation*; and~~
 - ~~(2) the *Local Network Service Provider* is no longer the *responsible person* for that *metering installation*;~~
- ~~the parties must negotiate in good faith to ensure the *Local Network Service Provider* is reasonably compensated for the alteration to the *metering installation*.~~

7.4 Metering Providers and Metering Data Providers

7.4.1 Role of Metering Providers **Responsibility**

- (a) Installation and maintenance of *metering installations* must be carried out only by a *Metering Provider*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) A *Metering Provider* must provide and maintain ~~is responsible for providing and maintaining~~ the security controls of a *metering installation* in accordance with clause 7.8.2.

7.4.1A Role of Metering Data Providers

- (a) The provision of *metering data services* must be carried out only by a *Metering Data Provider*.
- (b) A *Metering Data Provider* must provide and maintain the security controls associated with *metering data services* in accordance with clause 7.8.2.

7.4.2 Qualifications and registration of Metering Providers

- (a) A *Metering Provider* is a person who:
- (1) meets the requirements set out in schedule 7.4; and
 - (2) is accredited by and registered by *AEMO* in that capacity in accordance with the qualification process established under clause S7.4.1(b).
- (b) Any person may apply to *AEMO* for accreditation and registration as a *Metering Provider*.
- (ba) *AEMO* must include requirements for accreditation of *Metering Providers* in the service level procedures. The adoption of the requirements by *Metering Providers* is to be included in the qualification process in accordance with clause S7.4.1(b). The requirements must include a dispute resolution process.
- (bb) A *Metering Provider* must comply with the provisions of the *Rules* and procedures authorised under the *Rules* that are expressed to apply to *Metering Providers* relevant to their category of registration.
- (bc) [Deleted]
- (c) *Network Service Providers*, who are *responsible persons* for *metering installations*, must either register as a *Metering Provider* or enter into agreements with *Metering Providers* for the provision, installation and maintenance services relating to the *metering installations* for which they are responsible. ~~(ba) — *AEMO* must, in accordance with *Rules* consultation procedures, prepare and publish guidelines in respect of the accreditation of *Metering Providers*. The adoption of the guidelines by *Metering Providers* is to be included in the qualification process in accordance with clause S7.4.1(b). The guidelines must include a dispute resolution process.~~
- ~~(bb) A *Metering Provider* must comply with the provisions of the *Rules* and of procedures authorised under the *Rules*, and with any requirements established by *AEMO* under clause 7.4.2(bc), that are expressed to apply to *Metering Providers*.~~
- ~~(bc) The requirements referred to in clause 7.4.2(bb):~~
- ~~(1) must include the service level requirements with which the different categories of *Metering Providers* referred to in schedule 7.4 must comply; and~~

~~(2) may include, among other things, requirements relating to cooperation with AEMO and any person engaged by AEMO to operate any relevant agency metering database, the confidentiality of information collected by Metering Providers, the resolution of disputes between AEMO and Metering Providers, the access of AEMO to and inspection by AEMO of any equipment or database maintained by Metering Providers, the insurance which must be taken out by or on behalf of Metering Providers, subcontracting by Metering Providers, the software and systems that are used by Metering Providers, the ownership of intellectual property that is developed or used by Metering Providers, and the delivery up to AEMO of data, works, material and other property in the event of the deregistration of a Metering Provider.~~

~~As at the date the Rules commence operation, the requirements referred to in clause 7.4.2(bb) that apply in respect of a category of Metering Providers referred to in schedule 7.4 must be the same as those that applied in respect of that category of Metering Providers immediately prior to that date, but AEMO may from time to time amend such requirements in accordance with the Rules consultation procedures.~~

~~(e) Network Service Providers must either register as a Metering Provider or enter into agreements with Metering Providers for the provision of metering services.~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(ca) A *Network Service Provider* must allow a person other than a *Market Participant* to engage a *Metering Provider* to install a *metering installation* where the person does so in accordance with the *metrology procedure*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(d) Subject to clause 7.4.2(e), a *Market Generator* or *Market Customer* which is involved in the trading of *energy* must not be registered as a *Metering Provider* for *connection points* in respect of which the *metering data* relates to its own use of *energy*.

(e) If a *Market Participant* is a *Market Customer* and also a *Network Service Provider* then the *Market Participant* may be registered as a *Metering Provider* for that *connection point* as specified in clause 7.4.2(d), providing that at the *connection points* on the *transmission network*, the *Market Participant* must regard the *Transmission Network Service Provider* with which it has entered into a *connection agreement* as the *Local Network Service Provider*.

7.4.2A Qualifications and registration of Metering Data Providers

(a) A *Metering Data Provider* is a person who:

(1) meets the requirements set out in schedule 7.6; and

- (2) is accredited by and registered by AEMO in that capacity in accordance with the qualification process established under clause S7.6.1(b).
- (b) Any person may apply to AEMO for accreditation and registration as a *Metering Data Provider*.
- (c) *Network Service Providers*, who are responsible for *metering data services*, must either register as a *Metering Data Provider* or enter into agreements with *Metering Data Providers* for the provision of *metering data services* for those *metering installations*.
- (d) AEMO must include requirements for accreditation of *Metering Data Providers* in the *service level procedures*. The adoption of the requirements by *Metering Data Providers* is to be included in the qualification process in accordance with clause S7.6.1(b). The requirements must include a dispute resolution process.
- (e) A *Metering Data Provider* must comply with the provisions of the *Rules* and procedures authorised under the *Rules* that are expressed to apply to *Metering Data Providers* relevant to their category of registration.
- (f) A *Market Generator* or *Market Customer* which is involved in the trading of energy must not be registered as a *Metering Data Provider* for *connection points* in respect of which the *metering data* relates to its own use of energy.
- (g) If a *Market Participant* is a *Market Customer* and also a *Network Service Provider* then the *Market Participant* may be registered as a *Metering Data Provider* for that *connection point* as specified in clause 7.4.2A(f).

7.4.3 **Deregistration of Metering Providers and Metering Data Providers**

- (a) AEMO must establish, maintain and *publish* a procedure for deregistration of *Metering Providers* and *Metering Data Providers* which incorporates the principles specified in paragraph (aa).
- (aa) A breach of the provisions of the *Rules* or of the procedures under the *Rules* must be determined against the following principles:
- (1) the definition of breach must contain three or more levels of severity, the highest level of severity being a ‘material breach’;
 - (2) the de-registration of a *Metering Provider* or a *Metering Data Provider* can only occur if it can be demonstrated that the provider has performed a material breach; and
 - (3) the levels of a breach with severity below a material breach are to be treated as warnings with different levels of magnitude.
- (b) If AEMO reasonably determines that a *Metering Provider* or a *Metering Data Provider* has breached the provisions of the *Rules* or of procedures authorised under the *Rules* that applies to *Metering Providers* or *Metering Data Providers* then:
- (1) AEMO must send to that *Metering Provider* or *Metering Data Provider* a notice in writing setting out the nature of the breach; and

(2) AEMO must, if the Metering Provider or Metering Data Provider remains in breach for a period of more than 7 days after notice in accordance with subparagraph (1), conduct a review to assess the Metering Provider's or Metering Data Provider's capability for ongoing compliance with the Rules or procedures authorised under the Rules.

(c) AEMO may, following a review conducted under paragraph (b) and in accordance with the procedure under paragraph (a), deregister the Metering Provider or Metering Data Provider, suspend the provider from some categories of registration or allow the provider to continue to operate under constraints agreed with AEMO.

(d) If following a review under paragraph (c), AEMO deregisters or suspends from some categories of registration or allows the Metering Provider or Metering Data Provider to continue to operate under constraints, then AEMO must inform the relevant responsible person(s), the relevant financially responsible Market Participants and the relevant Local Network Service Providers of the outcome of that review.

~~(a) If a Metering Provider materially breaches the requirements of clause 7.4.2(bb), AEMO must send to that Metering Provider notice in writing setting out the nature of the breach and, if the Metering Provider remains in breach for a period of more than 7 days after notice from AEMO, AEMO may deregister the Metering Provider.~~

~~(aa) If AEMO reasonably determines that a Metering Provider may have breached the requirements of clause 7.4.2(bb), it must conduct a review of the Metering Provider's capability to install and maintain a metering installation. The outcome of the review may be deregistration, suspension of some categories of registration or continued operation under constraints agreed with AEMO.~~

~~(b) If, in the reasonable opinion of AEMO, a Metering Provider has acted in any way which is unethical, AEMO may deregister that Metering Provider.~~

~~(c) This clause 7.4.3 sets out the only action that can be taken against a Metering Provider:~~

~~(1) for a breach by that Metering Provider of provisions of the Rules or of procedures authorised under the Rules, or of any requirements established by AEMO under clause 7.4.2(bc), that are expressed to apply to Metering Providers; or~~

~~(2) by AEMO as a result of that Metering Provider acting in a way which is unethical.~~

7.5 Register of Metering Information

7.5.1 Metering register

(a) As part of the *metering database*, AEMO must maintain a *metering register* of all ~~revenue~~ *metering installations* and *check metering installations* which provide *metering data* used for AEMO account statements.

(b) The *metering register* referred to in clause 7.5.1(a) must contain the information specified in schedule 7.5.

7.5.2 Metering register discrepancy

- (a) If the information in the *metering register* indicates that the ~~revenue-metering installation~~ or the *check metering installation* does not comply with the requirements of the *Rules*, *AEMO* must advise affected *Registered Participants* of the discrepancy.
- (b) If a discrepancy under clause 7.5.2(a) occurs, then the *responsible person* must arrange for the discrepancy to be corrected within 2 *business days* unless exempted by *AEMO*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

7.6 Inspection, Testing and Audit of Metering Installations

7.6.1 Responsibility for testing

- (a) Testing of a *metering installation* carried out under this clause 7.6.1 must be carried out in accordance with:
 - (1) this clause 7.6.1; and
 - (2) the relevant inspection and testing requirements set out in schedule 7.3.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) A *Registered Participant* may request that the *responsible person* make arrangements for the testing of a *metering installation* and if the request is reasonable, the *responsible person* must:
 - (1) not refuse the request; and
 - (2) make arrangements for the testing.
- (c) Where the *responsible person* does not undertake the testing requested under paragraph (b), the *responsible person* must advise *AEMO* that the requested testing has not been undertaken and *AEMO* must make the arrangements for the testing where, in *AEMO's* reasonable opinion, it is practicable for *AEMO* to do so.
- (d) The *Registered Participant* who requested the tests under paragraph (b) may make a request to the *responsible person* to witness the tests.
- (e) The *responsible person* must not refuse a request received under paragraph (d) and must no later than 5 *business days* prior to the testing, advise:
 - (1) the party making the request; and

- (2) where the *Local Network Service Provider* is the *responsible person*, the *financially responsible Market Participant*,

of:

- (3) the location and time of the tests; and
(4) the method of testing to be undertaken.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (f) The *responsible person* and *AEMO* must co-operate for the purpose of making arrangements for *AEMO* to inspect or test the *metering installation* where:
- (1) the *responsible person* must give *AEMO* access to the *metering installation*; and
- (2) *AEMO* must:
- (i) no later than seven *business days* prior to the testing or inspection, give the *responsible person* notice of:
- (A) its intention to access the *metering installation* for the purpose of inspection or testing;
- (B) the name of the *representative* who will be conducting the test or inspection on behalf of *AEMO*; and
- (C) the *time* when the test or inspection will commence and the expected *time* when the test or inspection will conclude; and
- (ii) where reasonable, comply with the security and safety requirements of the *responsible person*.
- (g) Where *AEMO* or the *responsible person* has undertaken testing of a *metering installation* under this clause 7.6.1, *AEMO* or the *responsible person* (as the case may be) must make the test results available in accordance with paragraphs (h) and (i).
- (h) If the test results referred to in paragraph (g) indicate deviation from the technical requirements for that *metering installation*, the results must be made available as soon as practicable to the persons who are entitled to that *metering data* under rules 7.7(a)(1) to (7).
- (i) If the test results referred to in paragraph (g) indicate compliance with the technical requirements for that *metering installation*, the test results must be made available as soon as practicable:
- (1) in circumstances where the tests were requested by a *Registered Participant*, to the *Registered Participant* and persons who are entitled to that *metering data* under rules 7.7(a)(1) to (7); or

- (2) to a *Registered Participant* if requested by that *Registered Participant*, where the tests are not the result of a request for testing.
- (j) *AEMO* must check test results recorded in the *metering register* by arranging for sufficient audits annually of *metering installations* and to satisfy itself that the accuracy of each *metering installation* complies with the requirements of this Chapter 7.
- (k) The *responsible person* must store the test results in accordance with clause 7.6.4 and provide a copy to *AEMO* upon request or as part of an audit.

7.6.2 Actions in event of non-compliance

- (a) If the accuracy of the *metering installation* does not comply with the requirements of the *Rules*, the *responsible person* must:
 - (1) advise *AEMO* as soon as practicable of the errors detected and the possible duration of the existence of the errors; and

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (2) arrange for the accuracy of the *metering installation* to be restored in a time frame agreed with *AEMO*.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) *AEMO* may make appropriate corrections to the *metering data* to take account of errors referred to in clause 7.6.2(a) and to minimise adjustments to the final *settlements* account.

7.6.3 Audits of information held in metering installations ~~Audits of metering data~~

- (aa) *AEMO* is responsible for auditing *metering installations*.
- (a) *A Registered Participant* may request *AEMO* to conduct an audit to determine the consistency between the data held in the *metering database* and the data held in the relevant *metering installation*. ~~*A Registered Participant* may request *AEMO* to conduct an audit to determine the consistency between the data held in the *metering database* and the data held in the *Registered Participant's metering installation*.~~
- (b) If there are inconsistencies between data held in a *metering installation* and data held in the *metering database* the affected *Registered Participants* must liaise together to determine the most appropriate way to resolve the discrepancy.

- (c) If there is an inconsistency between the data held in a *metering installation* and the data held in the *metering database*, the data in the *metering installation* is to be taken as prima facie evidence of the *connection point's energy data*.
- (d) *AEMO must carry out periodic random audits of metering installations to confirm compliance with the Rules and must be given unrestrained access by responsible persons to metering installations for the purpose of carrying out such random audits where AEMO agrees to comply with the responsible person's reasonable security and safety requirements and has first given the responsible person at least two business days' notice of its intention to carry out an audit, which notice must include*~~*AEMO must carry out periodic random audits of metering installations to confirm compliance with the Rules and must be given unrestrained access by Registered Participants to metering installations for the purpose of carrying out such random audits where AEMO agrees to comply with the Registered Participant's reasonable security and safety requirements and has first given the Registered Participant at least two business days' notice of its intention to carry out an audit, which notice must include:*~~
- (1) the name of the *representative* who will be conducting the audit on behalf of *AEMO*; and
 - (2) the *time* when the audit will commence and the expected *time* when the audit will conclude.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

7.6.4 Retention of test records and documents

- (a) All records and documentation of tests prepared under this Chapter 7 or for the purposes of this Chapter 7 must be retained in accordance with this clause 7.6.4.
- (b) The *responsible person* must ensure records and documentation are retained as follows:
- (1) for a period of at least 7 years:
 - (i) sample testing of *meters* while the *meters* of the relevant style remain in service;
 - (ii) the most recent sample test results of the *meters* referred to in subparagraph (i) after the *meters* are no longer in service;
 - (iii) non-sample testing of *meters* while the *meters* remain in service;
 - (iv) the most recent non-sample test results after the *meters* are no longer in service;
 - (v) the most recent sample test results of *instrument transformers* after *instrument transformers* of the relevant type are no longer in service;

- (vi) the most recent non-sample test results of *instrument transformers* after they are no longer in service;
 - (vii) tests of new *metering* equipment of the relevant style while the equipment remains in service; and
 - (viii) tests of new *metering* equipment of the relevant style after the equipment is no longer in service; and
- (2) for a period of at least 10 years:
- (i) sample testing of *instrument transformers* while *instrument transformers* of the relevant type remain in service; and
 - (ii) non-sample testing of *instrument transformers* while they remain in service.
- (c) The *responsible person* must ensure records of type tests and pattern approvals carried out or obtained in accordance with clause S7.2.6.1(f) are retained while *metering* equipment of the relevant type remains in service and for at least 7 years after it is no longer in service.

7.7

Entitlement to metering data and access to metering installation

- (a) The only persons entitled to access energy data or to receive metering data, NMI Standing Data, settlements ready data~~The only persons entitled to receive metering data, NMI Standing Data~~ or data from the *metering register* for a *metering installation* are:
- (1) *Registered Participants* with a financial interest in the *metering installation* or the *energy* measured by that *metering installation*;
 - (2) *Metering Providers* who have an agreement to service the *metering installation*, in which case the entitlement to access is restricted to allow authorised work only;
 - (3) *financially responsible Market Participants* in accordance with the meter churn procedures ~~meter churn guidelines~~ developed under clause 7.3.4(j);
 - (4) the *Network Service Provider* or providers associated with the *connection point*;
 - (5) *AEMO* and its authorised agents;
 - (6) an Ombudsman in accordance with paragraphs (d), (e) and (f);
 - (7) a *financially responsible Market Participant's* customer upon request by that customer to the *financially responsible Market Participant* for information relating to that customer's *metering installation*; ~~and~~
 - (8) the *AER* or *Jurisdictional Regulators* upon request to *AEMO*; and

(9) *Metering Data Providers who have been engaged to provide metering data services for that metering installation or in accordance with clause 7.14.1A(c)(6).*

- (b) Electronic access to *energy data* recorded by a *metering installation* by persons referred to in paragraph (a) must only be provided where passwords in accordance with clause 7.8.2 are allocated, otherwise access shall be to *metering data* from the *metering data services database* or the *metering database*.
~~Electronic access to *metering data* from a *metering installation* must only be provided where passwords in accordance with clause 7.8.2 are allocated, otherwise access to *metering data* shall be from the *metering database*.~~

Note

This rule is classified as a civil penalty provision under the National Electricity (South Australia) Regulations.

- (c) The *responsible person* or *AEMO* (as the case may be) who is responsible for the provision of *metering data services* must ensure that access is provided to *metering data* from the *metering data services database* to persons eligible to receive *metering data* in accordance with paragraph (a).
~~The *responsible person* must ensure that access to *metering data* from the *metering installation* by persons referred to in rule 7.7(a) is scheduled appropriately to ensure that congestion does not occur.~~
- (c1) The *responsible person* must ensure that access to *metering data* from the *metering installation* by persons referred to in paragraph (a) is scheduled appropriately to ensure that congestion does not occur.
- (d) Despite anything to the contrary in this rule 7.7, *AEMO* may provide *metering data* relating to a *Registered Participant* from a *metering installation*, the *metering database* or the *metering register* to an Ombudsman acting under a duly constituted industry dispute resolution ombudsman scheme of which the *Registered Participant* is a participant, if the Ombudsman has requested the data for the purpose of carrying out a function of that scheme in respect of a complaint made by a customer of the *Registered Participant* against that *Registered Participant* under that scheme.
- (e) *AEMO* must notify the relevant *Registered Participant* of any information requested by an Ombudsman under rule 7.7(d) and, if it is requested by that *Registered Participant*, supply the *Registered Participant* with a copy of any information provided to the Ombudsman.
- (f) *AEMO* must, acting jointly with industry Ombudsmen, develop procedures for the efficient management of timely access to data by Ombudsmen in consultation with *Registered Participants* in accordance with the *Rules consultation procedures*.
- (g) The *Metering Provider* must provide electronic access to the *metering installation* in accordance with the requirements of paragraph (b) and electronic or physical access, as the case may be, to the *metering installation* to facilitate the requirements of rule 7.12(f).

7.8 Security of Metering Installations and Data

7.8.1 Security of metering installations

- (a) The *responsible person* must ensure that a *metering installation* is secure and that associated links, circuits and information storage and processing systems are protected by security mechanisms acceptable to AEMO.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) AEMO may override any of the security mechanisms fitted to a *metering installation* with prior notice to the *responsible person*.
- (c) If a *Local Network Service Provider*, *financially responsible Market Participant*, *Metering Provider*, or *Metering Data Provider* ~~*Metering Provider*~~ becomes aware that a seal protecting *metering* equipment has been broken, it must notify the *responsible person* within 5 *business days*.
- (d) If a broken seal has not been replaced by the person who notified the *responsible person* under paragraph (c), the *responsible person* must replace the broken seal no later than:
- (1) the first occasion on which the *metering* equipment is visited to take a reading; or
 - (2) 100 days,
- after receipt of notification that the seal has been broken.
- (e) The costs of replacing broken seals as required by paragraph (d) are to be borne by:
- (1) the *financially responsible Market Participant* if the seal was broken by its customer;
 - (2) a *Registered Participant* if the seal was broken by the *Registered Participant*; ~~or~~
 - (3) by the *Metering Provider* if the seal was broken by the *Metering Provider*; or
 - (4) by the *Metering Data Provider* if the seal was broken by the *Metering Data Provider*;
- and otherwise by the *responsible person*.
- (f) If it appears that as a result of, or in connection with, the breaking of a seal referred to in paragraph (c) that the relevant *metering* equipment may no longer meet the relevant minimum standard, the *responsible person* must ensure that the *metering* equipment is tested.

7.8.2 Security controls

- (a) The *responsible person* must ensure that ~~energy data~~~~metering data~~ held in the *metering installation* is protected from direct local or remote electronic access by suitable password and security controls in accordance with clause ~~7.8.2(e)~~ [paragraph \(c\)](#).

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) The *Metering Provider* must keep records of electronic access passwords secure.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (c) [The *Metering Provider* must only allocate 'read-only' passwords to *Market Participants*, *Local Network Service Providers* and *AEMO*. For the avoidance of doubt, a *financially responsible Market Participant* may allocate that 'read-only' password to a customer who has sought access to its *energy data* or *metering data* in accordance with rule 7.7\(a\)\(7\).](#) ~~The *Metering Provider* must allocate 'read-only' passwords to *Market Participants*, *Local Network Service Providers* and *AEMO*, except where separate 'read-only' and 'write' passwords are not available, in which case the *Metering Provider* must allocate a password to *AEMO* only.~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (d) The *Metering Provider* must hold 'read-only' and 'write' passwords.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (e) The *Metering Provider* must forward a copy of the passwords held under ~~clause 7.8.2(d)~~ ~~to *AEMO*~~ [paragraph \(d\) to *AEMO* on request by *AEMO* for *metering installations* types 1, 2, 3 and 4.](#)

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (f) [AEMO must hold a copy of the passwords referred to in paragraph \(e\) for the sole purpose of revealing them to a *Metering Provider* in the event that the passwords cannot be obtained by the *Metering Provider* by any other means.](#) ~~Subject to rule 7.12(aa), *AEMO* must hold a copy of the passwords referred to in clause 7.8.2(e)~~

~~for the sole purpose of revealing them to a *Metering Provider* in the event that the passwords cannot be obtained by the *Metering Provider* by any other means.~~

- (g) Subject to the authorisation of the *responsible person* which is for the purpose of managing congestion in accordance with rule 7.7(c), if a customer of a *financially responsible Market Participant* requests a ‘read-only’ password, the *financially responsible Market Participant* must:

(1) obtain a ‘read-only’ password from the *Metering Provider* in accordance with paragraph (c); and

(2) provide a ‘read-only’ password to the customer within 10 *business days*.~~Subject to the authorisation of the *responsible person*, if a customer of a *financially responsible Market Participant* requests a ‘read-only’ password, the *financially responsible Market Participant* must:~~

~~(1) obtain a ‘read-only’ password from the *Metering Provider*; and~~

~~(2) provide a ‘read-only’ password to the customer within 10 *business days*;~~

~~in accordance with paragraph (c).~~

- (h) The *responsible person* referred to in paragraph (g) must not unreasonably withhold the authorisation required by the *financially responsible Market Participant*.

(i) The *Metering Provider* must allocate suitable passwords to the *Metering Data Provider* that enables the *Metering Data Provider* to collect the *metering data* and to maintain the clock of the *metering installation* in accordance with clause 7.12.

(j) The *Metering Data Provider* must keep all *metering installation* passwords secure and not make the passwords available to any other person.

7.8.3 **Changes to metering equipment, parameters and settings within a metering installation**

Changes to parameters or settings within a *metering installation* must be:

- (a) authorised by *AEMO* prior to the alteration being made;

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) implemented by a *Metering Provider*;

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (c) confirmed by the *responsible person* within 2 *business days* after the alteration has been made; and

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (d) recorded by *AEMO* in the *metering register*.

7.8.4 Changes to energy data or to metering data

- (a) The energy data held by a metering installation ~~original stored energy data in a meter~~ must not be altered except when the *meter* is reset to zero as part of a repair or reprogramming.

- (b) If an on-site test of a metering installation requires the injection of current, the responsible person must ensure that:

(1) the energy data stored in the metering installation is inspected; and

(2) if necessary following the inspection under subparagraph (1), alterations are made to the metering data, to ensure that the metering data in the metering data services database and the metering database is not materially different from the energy consumed at that connection point during the period of the test. ~~If an on-site test of a metering installation requires the injection of current, the responsible person must ensure that:~~

~~(1) the energy data stored in the metering installation is inspected; and~~

~~(2) if necessary following the inspection under subparagraph (1), alterations are made to the metering data in accordance with paragraph (c);~~

~~to ensure that the metering data in the metering database is not materially different from the energy volumes flowing through the connection point during the period of the test.~~

- (c) If a responsible person considers alterations are necessary under paragraph (b)(2), the responsible person must:

(1) notify AEMO that alteration to the metering data is necessary; and

(2) advise the financially responsible Market Participant of the need to change the metering data and the responsible person must arrange for the Metering Data Provider to:

(i) alter the metering data for the connection point held in the metering data services database in accordance with the validation, substitution and estimation procedures in the metrology procedure;

(ii) submit the altered metering data to the Registered Participants and the Network Service Provider who are entitled to the data in accordance with rule 7.7.

~~If a responsible person considers alterations are necessary under paragraph (b)(2), the responsible person must:~~

~~(1) for a type 1, 2, 3 or 4 metering installation, advise AEMO of the variation and AEMO must arrange for the metering database to be altered in accordance with the validation, substitution and estimation procedures in the metrology procedure; or~~

~~(2) for a type 5, 6 or 7 metering installation, alter the energy data in accordance with the validation, substitution and estimation procedures in the metrology procedure and submit the altered data to AEMO.~~

- (d) If a test referred to in paragraph (b) is based on actual *connection point* loads, no ~~alteration~~adjustment is required.

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

7.9 Processing of Metering Data for Settlements Purposes

7.9.1 Metering databases

- (a) AEMO must create, maintain and administer a *metering database* (either directly or under a contract for provision of the database) containing information for each *metering installation* registered with AEMO.
- (b) ~~[Deleted] AEMO may use agency metering databases to form part of the metering database.~~
- (b1) ~~[Deleted] A person engaged by AEMO to provide agency data collection systems and agency metering databases must meet and comply with the service level requirements and any other criteria that AEMO establishes from time to time in relation to those functions, including accreditation requirements.~~
- (c) The *metering database* must have the capacity for electronic access by relevant *Market Participants* and *Network Service Providers*.
- (d) The *metering database* must include *metering data, settlements ready data, and information for each metering installation registered with AEMO in accordance with rule 7.5*~~original energy readings and, where relevant, metering data and settlements ready data.~~
- (e) Rights of access to data held within the *metering database* are set out in rule 7.7.
- (f) ~~[Deleted] The person who is required under this Chapter 7 to collect the metering data from the metering installation for the purpose of settlements must ensure that:~~
- ~~(1) the data is stored separately from the metering database and retained for a period of 7 years in the form in which it was collected; and~~
- ~~(2) a record of each adjustment or substitution to the metering data in respect of a metering installation is stored separately from the metering database and retained for a period of 7 years.~~

- (g) For all types of metering installations, the metering database must contain metering data that is:
- (1) retained online in an accessible format for at least 13 months; and
 - (2) following the retention under subparagraph (1), archived in an accessible format for an overall period of not less than 7 years.
- (h) The settlements ready data held in the metering database must be used by AEMO for settlements purposes.
- (i) The settlements ready data held in the metering database may be used by Distribution Network Service Providers for the purpose of determining distribution service charges in accordance with clause 6.20.1.
- (j) AEMO must retain settlements ready data for all metering installations for a period of 7 years.

~~For all types of metering installations, the metering database must contain metering data that is retained:~~

- ~~(1) online for 13 months in an accessible format; and~~
- ~~(2) following the retention under subparagraph (1), in archive in a form that is accessible independently of the format in which the data is stored for a period of 5 years and 11 months.~~

7.9.2 Remote acquisition of data ~~[Deleted]~~

- ~~(a) AEMO is responsible for the remote acquisition of the metering data and for storing this data as settlements ready data in the metering database. Such data may be used:~~
- ~~(1) by AEMO for settlements purposes in accordance with clause 7.9.1; or~~
 - ~~(2) by Distribution Network Service Providers for the purpose of determining distribution service charges in accordance with clause 6.20.1.~~
- ~~(b) If remote acquisition becomes unavailable, AEMO must arrange with the responsible person to obtain the relevant metering data.~~

7.9.3 Periodic energy metering ~~[Deleted]~~

- ~~(a) Where a device is used as a data logger (for types 1 to 5 metering installations), metering data relating to:~~
- ~~(1) the amount of active energy; and~~
 - ~~(2) reactive energy (where relevant) passing through a connection point,~~
- ~~must be collated in trading intervals within a metering installation unless it has been agreed between AEMO, the Local Network Service Provider and the Market Participant that metering data may be recorded in sub-multiples of a trading interval.~~

- ~~(b) Where a *metering installation* database is used as a *data logger* (*metering installation* types 6 and 7), the *metering data* relating to the amount of *active energy* passing through a *connection point* must be collated or determined in *trading intervals* within a *metering installation* unless it is specified in the *metrology procedure* that the data may be converted into *trading interval data* in the *AEMO* substitution process referred to in clause 7.9.4(a), in which case the *metrology procedure* must specify:~~
- ~~(1) the parameters to be used in preparing the *trading interval data* for each *market load*, including the algorithms;~~
 - ~~(2) the first tier *energy data* that is to be used in the conversion process;~~
 - ~~(3) the quality and timeliness of the first tier *metering data*;~~
 - ~~(4) the party responsible for providing the first tier *metering data*; and~~
 - ~~(5) if required, the method of cost recovery in accordance with clause 7.3.6(e).~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

7.9.4 Data validation, substitution and estimation

- (a) ~~[Deleted] AEMO is responsible for the validation and substitution of *metering data* for a type 1, 2, 3 and 4 *metering installation* in accordance with the *metrology procedure*.~~
- (b) ~~[Deleted] The *responsible person* is responsible for the validation, substitution and estimation of *metering data* for a type 5, 6 and 7 *metering installation* in accordance with the *metrology procedure*.~~
- (c) ~~[Deleted] Check *metering data*, where available, must be used by AEMO to validate *metering data* provided that the *check metering data* has been appropriately adjusted for differences in *metering installation accuracy*.~~
- (d) If AEMO in the preparation of *settlements ready data* detects *metering data* that fails validation AEMO must notify the *Metering Data Provider* within 1 *business day* of detection. If *check metering data* is not available or *metering data* cannot be recovered from the *check metering installation* within the time required for *settlements*, then a substitute value is to be prepared by AEMO using a method agreed with the *Market Participant* and the *Local Network Service Provider*.
- (e) Where a *Metering Data Provider* receives notification under paragraph (d), the *Metering Data Provider* must use its best endeavours to provide corrected *metering data* to AEMO within 1 *business day* or advise AEMO that this time limit cannot be achieved, and the reason for delay, in which case the parties must agree on a revised time limit by which the corrected *metering data* will be provided.
- (f) Where *metering data* fails validation by AEMO in the preparation of *settlements ready data* and replacement *metering data* is not available within the time required for *settlements* then AEMO must prepare a substitute value in accordance with the *metrology procedure*.

~~If AEMO detects a loss of metering data or incorrect metering data from a metering installation, it must notify the Market Participant and Local Network Service Provider within 24 hours of detection.~~

7.9.5 Errors found in metering tests, inspections or audits

(a) If a metering installation test, inspection or audit, carried out in accordance with rule 7.6, demonstrates errors in excess of those prescribed in schedule 7.2, the responsible person must ensure the metering data is substituted in accordance with clause 7.9.5 and 7.11.2 as appropriate.

(aa) If AEMO or the responsible person is not aware of the time at which the error that was identified in paragraph (a) arose, the error is to be deemed to have occurred at a time half way between the time of the most recent test or inspection which demonstrated that the metering installation complied with the relevant accuracy requirement and the time when the error was detected

(ab) The time that the error was deemed to occur, as determined in paragraph (aa), is to be used by the Metering Data Provider in performing substitution of the metering data.

~~(a) If a metering installation test, inspection or audit, carried out in accordance with rule 7.6, demonstrates errors in excess of those prescribed in schedule 7.2 and AEMO is not aware of the time at which that error arose, the error is to be deemed to have occurred at a time half way between the time of the most recent test or inspection which demonstrated that the metering installation complied with the relevant accuracy requirement and the time when the error was detected.~~

(b) If a test or audit of a metering installation demonstrates an error of measurement of less than 1.5 times the error permitted by schedule 7.2, no substitution of readings is required unless in AEMO's reasonable opinion a particular party would be significantly affected if no substitution were made.

(c) If any substitution is required under paragraph (b), AEMO must request the responsible person or the financially responsible Market Participant or the Metering Data Provider, as appropriate, to arrange for a suitable substitution of the incorrect metering data to be undertaken in accordance with the recommendations of any audit report provided by AEMO (under clauses 7.6.1(j), 7.6.3(a) and 7.6.3(d)), or if no audit report is provided, in accordance with the substitution requirements of the metrology procedure.~~If any substitution is required under clause 7.9.5(b), then AEMO must provide substitute readings to effect a correction for that error in respect of the period since the error was deemed to have occurred.~~

7.10 Confidentiality

Energy data, metering data, NMI Standing Data, information in the metering register and passwords are confidential.~~Metering data and passwords are confidential data~~ and are to be treated as *confidential information* in accordance with the Rules.

7.11 Metering Data Arrangements ~~Performance of Metering Installation~~

7.11.1 Metering data performance standards

- (a) ~~[Deleted] Subject to paragraphs (b) and (c), metering data is required for all trading intervals where the metering installation has the capability for remote acquisition of actual metering data.~~

Note

~~This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

- (b) Metering data is required by AEMO for all trading intervals where the metering installation has the capability for remote acquisition of actual metering data, and that data must be:

- (1) derived from a metering installation compliant with clause 7.3.4(a);
- (2) within the timeframe required for settlements and prudential requirements specified in the metrology procedure, and the relevant service level procedures;
- (3) actual or substituted in accordance with the metrology procedure;
- (4) in accordance with the performance standards specified in the metrology procedure;
- (5) the performance standards specified in subparagraph (4) must be set at a level that do not impose a material risk on AEMO's ability to meet its settlements and prudential requirements obligations imposed by the Rules; and
- (6) AEMO may relax or exempt the performance standards specified in subparagraph (4) in circumstances, including those referred to in clause 7.3.4(f), when AEMO and the responsible person agree on a lower performance standard that does not place a material risk on AEMO's ability to meet its settlements and prudential requirements obligations in the Rules.~~Where AEMO requires actual metering data to ensure compliance with Chapter 3, the metering data required under paragraph (a) must be:~~
 - ~~(1) at the level of accuracy prescribed in schedule 7.2;~~
 - ~~(2) within the timeframe required for settlements and prudential requirements specified in the metrology procedure, and at a level of availability of at least 99% per annum for instrument transformers and other components of the metering installations, not including the communication link;~~
 - ~~(3) within the timeframe required for settlements and prudential requirements specified in the procedures established in the metrology procedure, and at a level of availability of at least 95% per annum for the communication link, and~~

~~(4) actual or substituted in accordance with the procedures established by AEMO under clause 7.14.1(c)(6);~~

~~or as otherwise agreed between AEMO and the responsible person.~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(c) ~~[Deleted] Where AEMO does not require actual metering data to ensure compliance with Chapter 3, the metering data required under paragraph (a) must be:~~

~~(1) at the level of accuracy prescribed in schedule 7.2;~~

~~(2) within the timeframe required for settlements specified in the metrology procedure;~~

~~(3) actual, substituted or estimated in accordance with the procedures established by AEMO under clause 7.14.1(c)(6); and~~

~~(4) in accordance with the performance standards specified in the metrology procedure.~~

Note

~~This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

(d) Where the metering installation does not have the capability for remote acquisition of actual metering data, metering data must be provided to AEMO. ~~Where the metering installation does not have the capability for remote acquisition of actual metering data, metering data is required:~~

(1) derived from a metering installation compliant with clause 7.3.4(a)

(2) within the timeframe required for settlements specified in the metrology procedure and the relevant service level procedures;

(3) as actual, substituted or estimated data in accordance with the metrology procedure; and

(4) in accordance with the performance standards specified in the metrology procedure.

~~(1) at the level of accuracy prescribed in schedule 7.2;~~

~~(2) within the timeframe required for settlements specified in the metrology procedure;~~

~~(3) as actual, substituted or estimated in accordance with the procedures established by AEMO under clause 7.14.1(c)(6); and~~

~~(4) in accordance with the performance standards specified in the metrology procedure.~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

7.11.2 Metering installation malfunctions Metering Data Services

(a) Metering Data Providers must provide metering data services in accordance with the Rules and procedures authorised under the Rules, including:

- (1) collecting metering data by manual reading or by remote acquisition;
- (2) the validation and substitution of metering data for a type 1, 2, 3 and 4 metering installation;
- (3) the validation, substitution and estimation of metering data for a type 5 and 6 metering installation;
- (4) the calculation, estimation and substitution of metering data for a type 7 metering installation;
- (5) establishing and maintaining a metering data services database associated with each metering installation;
- (6) delivery of metering data and relevant NMI Standing Data for a metering installation to a person entitled to receive data in accordance with rule 7.7;
- (7) the delivery of metering data and relevant NMI Standing Data to AEMO for settlements;
- (8) ensuring the metering data and other data associated with the metering installation is protected from direct local or remote electronic access while being collected and while held in the metering data services database and that data is provided only in accordance with rule 7.7;
- (9) maintaining the standard of accuracy of the time setting of the metering data services database and the metering installation in accordance with rule 7.12;
- (10) notifying the responsible person of any metering installation malfunction of a metering installation within 1 business day; and
- (11) management and storage of metering data in accordance with clause 7.11.3.

~~Unless an exemption is obtained from AEMO under this clause 7.11.2, in respect of a connection point with:~~

- ~~(1) a type 1, 2 and 3 metering installation, if a malfunction occurs to the installation, repairs must be made to it as soon as practicable but no later than 2 business days after the malfunction was detected or should reasonably have been detected; or~~

~~(2) a metering installation other than the installations referred to subparagraph (1), if a malfunction occurs to the installation, repairs must be made to it as soon as practicable but no later than 10 business days after the malfunction was detected or ought reasonably to have been detected.~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) Metering Data Providers may provide additional data services that exceed the minimum requirements of the Rules, service level procedures or the metrology procedure at the request of a relevant Market Participant or Local Network Service Provider provided that:

(1) the full costs of this work is met by the Market Participant or Local Network Service Provider; and

(2) the provision of additional data services must not impact the provision of metering data services.

~~AEMO must establish and publish a procedure applicable to the provision of exemptions for the purpose of paragraph (a) and AEMO may revise the procedure from time to time.~~

- (c) Despite anything to the contrary in the Rules, AEMO may obtain metering data directly from a metering installation for the settlements process.~~If an exemption is provided by AEMO under this clause 7.11.2 then the Metering Provider must provide AEMO with a plan for the rectification of the metering installation.~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (d) ~~[Deleted] A Registered Participant who becomes aware of an outage or malfunction of a metering installation must advise AEMO as soon as practicable.~~

Note

~~This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

7.11.3 Data management and storage

- (a) Metering Data Providers must:

(1) retain metering data for all relevant metering installations in the metering data services database:

(i) online in an accessible format for at least 13 months;

(ii) following the retention under subparagraph (1)(i), in an accessible format for an overall period of not less than 7 years; and

- (2) archive in an accessible format for a period of 7 years:
 - (i) metering data in its original form collected from the metering installation;
 - (ii) records of each substitution to metering data in respect of a metering installation.
- (b) Metering Data Providers accredited for type 7 metering installations must maintain techniques for determining calculated metering data for type 7 metering installations that are market loads under schedule 7.2 in accordance with the metrology procedure.
- (c) Metering Data Providers must maintain electronic data transfer facilities in order to deliver metering data from the metering data services database to the metering database in accordance with the relevant service level procedures.
- (d) Check metering data, where available, and appropriately adjusted for differences in metering installation accuracy, where applicable, must be used by the Metering Data Provider to validate metering data.
- (e) If the Metering Data Provider becomes aware that the metering data that has been delivered into the metering database from a metering data services database is incorrect, then the Metering Data Provider must provide corrected metering data to the financially responsible Market Participant, the Local Network Service Provider and AEMO within 1 business day of detection.
- (f) Metering data may only be altered by a Metering Data Provider except in the preparation of settlements ready data, in which case AEMO may alter the metering data in accordance with clause 7.9.4(f).
- (g) A Metering Data Provider may only alter metering data in the metering data services database in accordance with the metrology procedure.
- (h) Metering Data Providers must maintain electronic data transfer facilities in order to deliver metering data from the metering data services database to Market Participants and Network Service Providers who are entitled to receive metering data.
- (i) The Metering Data Provider's rules and protocols for the collection of metering data from a metering installation must be approved by AEMO and AEMO must not unreasonably withhold such approval.
- (j) The Metering Data Provider must arrange with the responsible person to obtain the relevant metering data if remote acquisition, if any, becomes unavailable.

7.11.4 Use of check metering data

- (a) Check metering data, where available and provided that the check metering data has been appropriately adjusted for differences in metering installation accuracy, must be used by Metering Data Providers or AEMO, as the case may be, for:
 - (1) validation;

(2) substitution; and

(3) estimation

of metering data as required by clauses 7.9.4(d) and 7.11.2.

7.11.5 Periodic energy metering

(a) For type 1, 2, 3, 4 and 5 metering installations, metering data relating to:

(1) the amount of active energy; and

(2) reactive energy (where relevant) passing through a connection point,

must be collated in trading intervals within a metering data services database unless it has been agreed between AEMO, the Local Network Service Provider and the Market Participant that metering data may be recorded in sub-multiples of a trading interval.

(b) For type 6 metering installations, metering data relating to the amount of active energy passing through a connection point must be converted into trading intervals in the profiling process undertaken by AEMO in accordance with the metrology procedure and the metrology procedure must specify:

(1) the parameters to be used in preparing the trading interval metering data for each market load, including the algorithms;

(2) the metering data from first-tier loads that is to be used in the conversion process;

(3) the quality and timeliness of the metering data from the first-tier loads;

(4) the party responsible for providing the metering data from the first-tier loads; and

(5) if required, the method of cost recovery in accordance with clause 7.3A(c).

(c) For type 7 metering installations, metering data relating to the amount of active energy passing through a connection point must be prepared by a Metering Data Provider in accordance with clause 7.11.2(a)(4) in trading intervals within a metering data services database.

7.12 Time settings

(a) The Metering Provider must set the times of clocks of all metering installations with reference to Eastern Standard Time to a standard of accuracy in accordance with schedule 7.2 relevant to the load through the connection point when installing, testing and maintaining metering installations. ~~The responsible person must ensure that all metering installations and data logger clocks are referenced to Eastern Standard Time and maintained to a standard of accuracy in accordance with schedule 7.2 relevant to the load through the metering point.~~

Note

This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (b) ~~[Deleted]In relation to a type 1, 2, 3 and 4 metering installation, the responsible person must provide to AEMO suitable remote data access to set the time function of the installation.~~

~~**Note**~~

~~This clause is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)~~

- (c) ~~[Deleted]In relation to a type 5, 6 and 7 metering installation, the responsible person must set the time function of the metering installation.~~

- (d) AEMO must ensure that the *metering database* clock is maintained within -1 second and +1 second of *Eastern Standard Time* ~~for a type 1, 2, 3 and 4 metering installation.~~

- (e) The Metering Data Provider must maintain the metering data services database clock within - 1 second and + 1 second of *Eastern Standard Time*.

- (f) The Metering Data Provider must:

(1) check the accuracy of the clock of the *metering installation* with reference to *Eastern Standard Time* to a standard of accuracy in accordance with schedule 7.2 relevant to the *load* through the *connection point* on each occasion that the *metering installation* is accessed;

(2) reset the clock of the *metering installation* so that it is maintained to the required standard of accuracy in accordance with schedule 7.2 relevant to the *load* through the *connection point* where the clock error of a *metering installation* does not conform to the required standard of accuracy on any occasion that the *metering installation* is accessed; and

(3) notify the *Metering Provider* where the *Metering Data Provider* is unable to reset the clock of the *metering installation* in accordance with subparagraph (2).

- ~~(e) The responsible person must ensure that the *metering installation* database clock is maintained within -1 second and + 1 second of *Eastern Standard Time* for types 5, 6 and 7 metering installations.~~

7.13 Evolving Technologies and Processes and Development of the Market

- (a) Evolving technologies or processes that:
- (1) meet or improve the performance and functional requirements of this Chapter; or
 - (2) facilitate the development of the *market*,

may be used if agreed between the relevant *Market Participant(s)*, the *Local Network Service Provider* and *AEMO*, and the agreement of the *Local Network Service Provider* and *AEMO* must not be unreasonably withheld.

- (b) No agreement contemplated by rule 7.13(a) can be entered into if it materially and adversely affects the interests of persons other than the *Market Participant(s)* and the *Local Network Service Provider* who are parties to the agreement.

Note

This rule is classified as a civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

- (c) *AEMO* must, at least annually, *publish* a report on the application of evolving technologies and processes.
- (d) *AEMO* must, at least annually, submit a written report to the *AEMC* on the extent to which this Chapter 7 may need to be amended in order to accommodate the evolving technologies and processes or the development of the *market*.
- (e) *AEMO* must, at least annually, prepare and *publish* a report on the impact of the introduction of retail competition on the wholesale market, including:
 - (1) the scope for improvement in the operation of wholesale *market settlements*;
 - (2) developments in metering technology suited to more timely operation of the *market*; and
 - (3) the effectiveness of the provisions of this Chapter 7.
- (f) Having regard to the need to remove barriers to the adoption of economically efficient metering solutions and other economically efficient technology ('**efficient solutions**'), *AEMO* must:
 - (1) monitor developments in the Australian metering standards; and
 - (2) consult with the *participating jurisdictions* and other interested parties on any changes proposed to be made to the Australian metering standards that may have the potential to create such barriers,and include any relevant findings in its report under paragraph (c).
- (g) The *Ministers of participating jurisdictions* must, by 30 June 2009, conduct and complete a review of type 5 and 6 *metering installations* and the *metrology procedure*.
- (h) In undertaking the review referred to in paragraph (g), the *Ministers of the participating jurisdictions* may:
 - (1) review the outcomes from the Joint Jurisdictional Review of Metrology Procedures: Final Report of October 2004 ('**the JJR report**') and identify any outstanding issues from the JJR report;

- (2) make recommendations to resolve any outstanding issues from the JJR report;
- (3) identify any additional barriers to the adoption of efficient solutions and make recommendations to reduce those barriers; and
- (4) have regard to the need to maintain the regulatory certainty, in recognition that regulatory uncertainty is itself a major barrier to the adoption of efficient solutions.

7.14 ~~Metrology procedure~~ Metrology and service level procedures

7.14.1 Requirements of the metrology procedure

- (a) AEMO must ~~establish, maintain develop~~ and *publish* the *metrology procedure* that will apply to *metering installations* in accordance with this rule 7.14 and this Chapter 7.
- (b) The *metrology procedure* must include a minimum period of 3 months between the date when the *metrology procedure* is *published* and the date the *metrology procedure* commences unless the change is made under clause 7.1.4(e) in which case the effective date may be the same date as the date of *publication*.~~The *metrology procedure* must be prepared, revised and *published* by AEMO in accordance with the *Rules consultation procedures* and must include a minimum period of 3 months between the date when the *metrology procedure* is *published* and the date the *metrology procedure* commences unless the change is made under clause 7.14.4(e) in which case the effective date may be the same date as the date of *publication*.~~
- (c) The *metrology procedure* must include:
 - (1) information on the devices and processes that are to be used to:
 - (i) measure, or determine by means other than a device, the flow of electricity in a power conductor;
 - (ii) convey the measured or determined data under subparagraph (i) to other devices ~~using communication link(s);~~
 - (iii) prepare the data using devices or algorithms to form *metering data*; and
 - (iv) provide access to the *metering data* from a *telecommunications network*;
 - (2) the requirements for the provision, installation and maintenance of *metering installations*;
 - (3) the obligations of *responsible persons*, *financially responsible Market Participants, Local Network Service Providers* ~~and *Metering Providers*~~;
 - (4) details on:

- (i) the parameters that determine the circumstances when *metering data* must be delivered to *AEMO* for the purposes of Chapter 3 and such parameters must include, but are not limited to, the volume limit per annum below which *AEMO* will not require *metering data* for those purposes;
 - (ii) the timeframe obligations for the delivery of metering data relating to extraction or delivery of metering data from a metering installation for the purpose of *settlements*; and
 - (iii) the performance standards for *metering data* required for the purpose of *settlements*;
- (5) subject to clause 7.14.2(d)(2), zero MWh as the specification for the *type 5 accumulation boundary*;
- (6) procedures for ~~the preparation of settlements ready data on the following matters:~~
- (i) the validation and substitution of metering data~~data validation and substitution in accordance with clause 7.9.4;~~
 - (ii) the estimation of metering data~~data estimation for the purposes of clause 7.11.1; and~~
 - (iii) ~~in relation to the matters specified in clause 7.9.3,~~ the method:
 - (A) by which accumulated *metering data* is to be converted by AEMO into trading interval metering data~~into trading interval data~~; and
 - (B) of managing the first-tier load metering data that is necessary to enable the conversion referred to in subparagraph (A)~~first tier load energy data that is necessary to enable the conversion referred to in subparagraph (1)~~ to take place; and
- (7) other matters in the *Rules* required to be included in the *metrology procedure*.

7.14.1A Requirements of the service level procedures

- (a) AEMO must establish, maintain and publish the service level procedures that will apply to the relevant categories of registration that apply to Metering Providers and Metering Data Providers, in accordance with this Chapter 7 and this rule 7.14.
- (b) AEMO must establish and publish the service level procedures in accordance with clause 7.1.3.
- (c) The service level procedures must include:
 - (1) the requirements for the provision, installation and maintenance of metering installations by Metering Providers;

- (2) requirements for the systems and processes for the collection, processing and delivery of *metering data* by *Metering Data Providers*;
 - (3) the performance levels associated with the collection, processing and delivery of *metering data*;
 - (4) the data formats that must be used for the delivery of *metering data*;
 - (5) the requirements for the management of relevant *NMI Standing Data*;
 - (6) the requirements for the processing of *metering data* associated with *connection point* transfers and the alteration of *metering installations* where one or more devices are replaced;
 - (7) other matters in the Rules required to be included in the *service level procedures*; and
 - (8) information to ensure consistency in practice between the *service level procedures* and other documents developed and published by *AEMO*, including the practices adopted in the *Market Settlement and Transfer Solutions Procedures*.
- (d) The *service level procedures* must include requirements for accreditation, and for *Metering Providers* and *Metering Data Providers* (the '**service providers**'), may include requirements for but are not limited to:
- (1) requirements relating to cooperation with *AEMO*;
 - (2) the confidentiality of information collected by the service providers;
 - (3) the resolution of disputes between *AEMO* and the service providers, including disputes associated with a breach of the *Rules* and procedures authorised under the *Rules*;
 - (4) the access of *AEMO* to and the inspection and audit by *AEMO* of any equipment or database maintained by the service providers;
 - (5) the insurance which must be taken out by or on behalf of the service providers;
 - (6) subcontracting by the service providers;
 - (7) the software and systems that are used by the service providers;
 - (8) maintenance of quality systems accreditation;
 - (9) the ownership of intellectual property that is developed or used by the service providers; and
 - (10) the delivery up to *AEMO* of data, works, material and other property that *AEMO* has the right to in the event of the deregistration of a service provider.
- (e) The *service level procedures* must contain information to ensure consistency in practice between the procedures and other documents developed and published by

[AEMO, including the practices adopted in the Market Settlement and Transfer Solutions Procedures.](#)

7.14.2 Jurisdictional metrology material in metrology procedure

- (a) Subject to this clause 7.14.2, *AEMO* may include in the *metrology procedure* other metrology material that is in the nature of a guideline, specification or other standard for a *participating jurisdiction* in relation to type 5, 6 and 7 *metering installations* which alters the application of the *metrology procedure* for that jurisdiction (*jurisdictional metrology material*).
- (b) *Jurisdictional metrology material* may only be submitted to *AEMO* for inclusion in the *metrology procedure* by the *Ministers of the MCE*.

Note:

~~For the period until 1 January 2009, a *Minister of a participating jurisdiction*, on behalf of a particular *participating jurisdiction*, may provide to NEMMCO *jurisdictional metrology material* in accordance with clause 11.5.5~~

- (c) *Jurisdictional metrology material* submitted to *AEMO* under paragraph (b) must:
 - (1) be in writing;
 - (2) be provided to *AEMO* within sufficient time for *AEMO* to meet its obligations under this clause 7.14.2;
 - (3) be consistent with the matters contained in clauses 7.14.1 and 7.14.3;
 - (4) contain a date by which the *Ministers of the MCE* will undertake a review in relation to harmonising the *jurisdictional metrology material* with the *metrology procedure* (the **review date**); and
 - (5) be accompanied by written reasons as to why the *jurisdictional metrology material* is required instead of the *metrology procedure*.
- (d) *Jurisdictional metrology material* may address the following matters:
 - (1) guidelines for the replacement of a device capable of producing *interval energy data* with a device that only produces *accumulated energy data*; and
 - (2) the specification of the *type 5 accumulation boundary*.
- (e) On receiving *jurisdictional metrology material* from the *Ministers of the MCE*, *AEMO* must undertake the *Rules consultation procedures* in relation to that material, including in that consultation the reasons referred to paragraph (c)(5).
- (f) At the conclusion of the *Rules consultation procedures* under paragraph (e), *AEMO* must provide a final report to the *Ministers of the MCE* in accordance with rule 8.9(k) of the outcome of that procedure and:
 - (1) in the case where the *Ministers of the MCE* do not advise *AEMO* of any amendments to the *jurisdictional metrology material*, *AEMO* must incorporate that material into a separate part of the *metrology procedure*; or

- (2) in the case where the *Ministers of the MCE* advise AEMO of amendments to the *jurisdictional metrology material*, AEMO must incorporate the amended material into a separate part of the *metrology procedure*.
- (g) The *jurisdictional metrology material*, as included in the *metrology procedure* by AEMO, expires on the review date unless the *Ministers of the MCE* submit to AEMO new *jurisdictional metrology material* in accordance with this clause 7.14.2.
- (h) The *jurisdictional metrology material* must not prevent the *metering data* from being collected as interval metering data~~extracted or emanating from a data logger as interval energy data~~ if required by the *financially responsible Market Participant* or a *Local Network Service Provider* for any purpose other than for settlements.

7.14.3 **Additional matters**Additional metrology procedure matters

- (a) The *metrology procedure* may:
- (1) clarify the operation of the *Rules* in relation to:
- (i) *load* profiling;
 - (ii) the provision and maintenance of *meters*;
 - (iii) the provision of metering data services~~energy data services~~;
 - (iv) metrology for a *market load* connected to a *network* where the owner or operator of that *network* is not a *Registered Participant*;
 - (v) the accreditation of *Metering Providers* and Metering Data Providers; and
 - (vi) with respect to the provision, installation and maintenance of metering installations and the provision of metering data services, the obligations of responsible persons, financially responsible Market Participants, Local Network Service Providers, AEMO Metering Providers, and Metering Data Providers~~the obligations of responsible persons, AEMO, and Metering Providers~~;
- (2) specify in greater detail:
- (i) the accuracy of *metering installations*;
 - (ii) [Deleted]~~data logger standards~~;
 - (iii) inspection and testing standards;
 - (iv) Metering Provider and Metering Data Provider capabilities in accordance with schedule 7.4 and 7.6 respectively, and accreditation standards;

- (v) the standards and/or technical requirements for the metering data services database; and ~~the technical requirements for the database of the metering installation; and~~
- (vi) the technical standards for *metering* of a *market load* that is connected to a *network* where the operator or owner of that *network* is not a *Registered Participant*;
- (3) provide information on the application of the *Rules*, subject to a statement in the procedure that where any inconsistency arises between the *Rules* and the *metrology procedure*, the *Rules* prevail to the extent of that inconsistency;
- (4) ~~in relation to type 5 and 6 metering installations;~~ contain requirements:
 - (i) for the engagement and payment of *Metering Providers* and *Metering Data Providers*; and
 - (ii) for the provision of relevant details of the *metering installation* to the *responsible person*, where applicable;
- (5) in relation to type 5, 6 and 7 *metering installations* specify in what circumstances *metering data held in the metering data services database*~~*energy data held in metering installations*~~ within the relevant *participating jurisdiction*, can be used by *Distribution Network Service Providers* to calculate charges for *distribution services* for the purposes of clause 6.20.1(e); and
- (6) contain information to ensure consistency in practice between the *metrology procedure* and other instruments developed and published by *AEMO*, including the practices adopted in the *Market Settlement and Transfer Solution Procedures*.
- (b) The *metrology procedure* may not include information relating to consumer protection.

7.14.4 Deleted Amendment of the metrology procedure

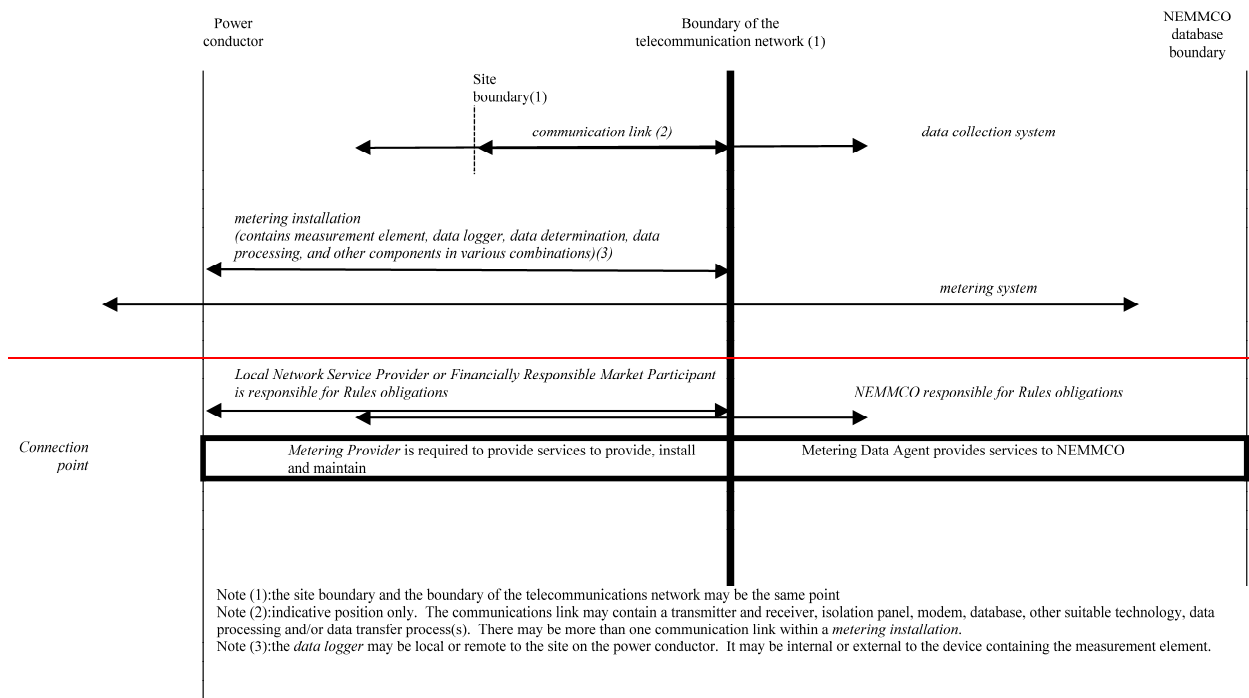
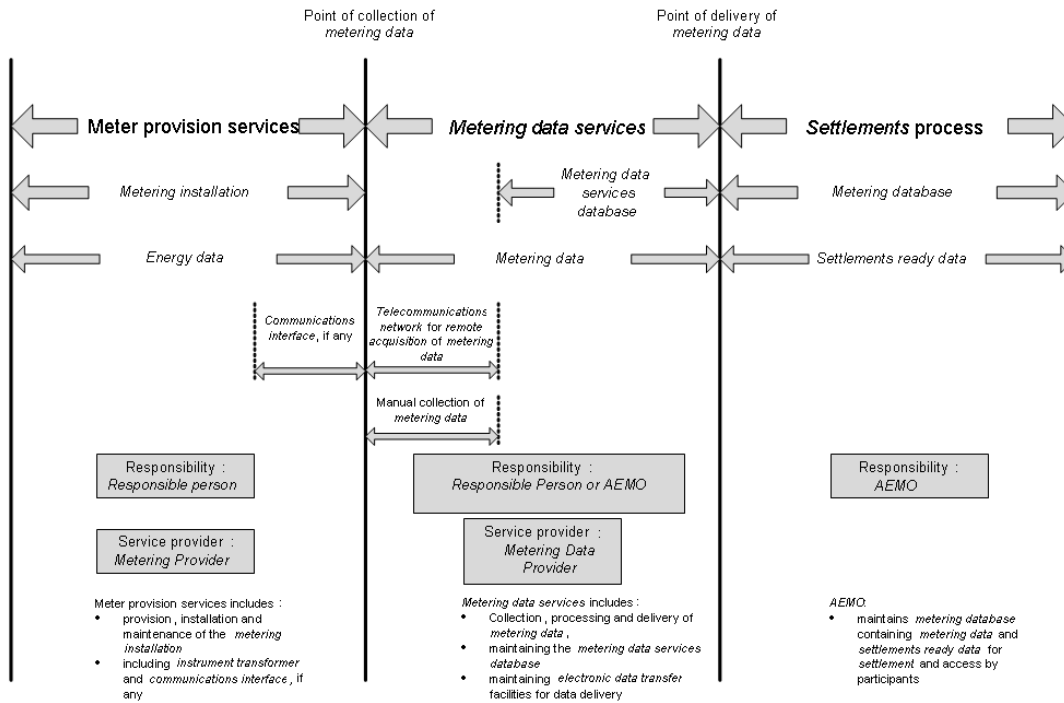
- ~~(a) Any person (**the proponent**) may submit to *AEMO* a proposal to amend the *metrology procedure* except in relation to the *jurisdictional metrology material* (**the proposal**), and must include reasons for the proposed change.~~
- ~~(b) For proposals submitted under paragraph (a), *AEMO* must:~~
 - ~~(1) give notice of receipt of the proposal to the proponent; and~~
 - ~~(2) advise the proponent of the action that *AEMO* proposes to undertake under paragraphs (c) or (e).~~
- ~~(c) Where *AEMO*:~~
 - ~~(1) accepts the proposal, *AEMO* must conduct the *Rules consultation procedures* in relation to that proposal;~~

- ~~(2) requests further information from the proponent in relation to a proposal, on receiving that information AEMO must either accept, or reject the proposal; or~~
- ~~(3) rejects a proposal, AEMO must advise the proponent of its decision and reasons for the decision in writing.~~
- ~~(d) AEMO may at the conclusion of the *Rules consultation procedures* amend the *metrology procedure* (if necessary).~~
- ~~(e) Where in AEMO's reasonable opinion, a proposal referred to in paragraph (a) relates to amendments that are of a minor or administrative nature, AEMO is not required to undertake the *Rules consultation procedures* but must:~~
 - ~~(1) publish the proposal including the accompanying reasons;~~
 - ~~(2) issue a notice to *Registered Participants, Metering Providers, Ministers* and the *AER* advising that the amendment to the *metrology procedure* has been published;~~
 - ~~(3) invite submissions on the proposal;~~
 - ~~(4) allow 10 *business days* for the receipt of submissions;~~
 - ~~(5) allow a reasonable extension of time for submissions if requested in writing by a *Registered Participant* or *Metering Provider*;~~
 - ~~(6) publish submissions as soon as practicable after submissions have been received;~~
 - ~~(7) consider the submissions; and~~
 - ~~(8) publish, on or before the day of publication of the *metrology procedure*, reasons for the amendments to the *metrology procedure*.~~

7.15 Miscellaneous

- (a) AEMO in consultation with the *National Measurement Institute* must establish guidelines that clarify the application of the requirements of the *National Measurement Act* to *metering installations*.
- (b) For the avoidance of doubt, to the extent that there is an inconsistency between the *Rules* and the *National Measurement Act*, the Act prevails to the extent of that inconsistency.

Schedule 7.1 Responsibility for Metering-metering installation and metering data



Schedule 7.2 Types and Accuracy of Metering Installations

S7.2.1 General requirements

- (a) This Schedule 7.2 sets out~~The following are~~ the minimum requirements for metering installations.

- (b) A *Registered Participant* may require the responsible person to arrange for a metering installation to meet~~may install a metering installation with~~ a higher level of accuracy, with the full costs of this work being met by that *Registered Participant*.

S7.2.2 Metering installations commissioned prior to 13 December 1998

- (aa) This clause provides conditions that are to apply to *metering installations* that were commissioned prior to 13 December 1998.
- (a) The use of *metering class current transformers* and *voltage transformers* that are not in accordance with Table S7.2.3.1 are permitted provided that where necessary to achieve the overall accuracy requirements:
- (1) *meters* of a higher class accuracy are installed; and/or
 - (2) calibration factors are applied within the *meter* to compensate for *current transformer* and *voltage transformer* errors.
- (b) Protection *current transformers* are acceptable where there are no suitable *metering class current transformers* available and the overall accuracy and performance levels can be met.
- (c) Where the requirements of clauses S7.2.2(a) and S7.2.2(b) cannot be achieved then the *responsible person* is required to comply with transitional arrangements or obtain an exemption from *NEMMCO* or upgrade the *metering installation* to comply with this schedule 7.2.
- (d) The arrangements referred to in clause S7.2.2(c) may remain in force while the required accuracy and performance can be maintained within the requirements of the *Rules*.
- (e) The purchase of new *current transformers* and *voltage transformers* must comply with the *Rules*.

S7.2.3 Accuracy requirements for metering installations

Table S7.2.3.1 [Table S7.2.3.1 Overall Accuracy Requirements of Metering Installation Components](#)

~~Overall Accuracy Requirements of Metering Installation Components (Item 1)~~

<u>Type</u>	<u>Volume limit per annum per connection point</u>	<u>Maximum allowable overall error (±%) at full load (Item 7) active reactive</u>		<u>Minimum acceptable class or standard of components</u>	<u>Metering installation clock error (seconds) in reference to EST</u>
<u>1</u>	<u>greater than 1000GWh</u>	<u>0.5</u>	<u>1.0</u>	<u>0.2CT/VT/meter Wh</u> <u>0.5 meter varh</u>	<u>±5</u>

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<u>Type</u>	<u>Volume limit per annum per connection point</u>	<u>Maximum allowable overall error ($\pm\%$) at full load (Item 7) active reactive</u>		<u>Minimum acceptable class or standard of components</u>	<u>Metering installation clock error (seconds) in reference to EST</u>
<u>2</u>	<u>100 to 1000GWh</u>	<u>1.0</u>	<u>2.0</u>	<u>0.5CT/VT/meter Wh</u> <u>1.0 meter varh</u>	<u>± 7</u>
<u>3</u>	<u>0.75 to less than 100 GWh</u>	<u>1.5</u>	<u>3.0</u>	<u>0.5CT/VT</u> <u>1.0 meter Wh</u> <u>2.0 meter varh</u> <u>(Item 1)</u>	<u>± 10</u>
<u>4</u>	<u>less than 750 MWh</u> <u>(Item 2)</u>	<u>1.5</u>	<u>n/a</u>	<u>Either 0.5 CT and 1.0 meter Wh; or whole current general purpose meter Wh:</u> <ul style="list-style-type: none"> <u>• meets requirements of clause 7.3.1(a)(10); and</u> <u>• meets the requirements of clause 7.11.1(b).</u> <u>(Item 1)</u>	<u>± 20</u> <u>(Item 2a)</u>
<u>5</u>	<u>less than x MWh</u> <u>(Item 3)</u>	<u>1.5</u> <u>(Item 3b)</u>	<u>n/a</u>	<u>Either 0.5 CT and 1.0 meter Wh; or whole current connected general purpose meter Wh:</u> <ul style="list-style-type: none"> <u>• meets requirements of clause 7.3.1(a)(11); and</u> <u>• meets the requirements of clause 7.11.1(d).</u> <u>(Item 1)</u>	<u>± 20</u> <u>(Item 3a)</u>
<u>6</u>	<u>less than y MWh</u> <u>(Item 4)</u>	<u>2.0</u> <u>(Item 4b)</u>	<u>n/a</u>	<u>CT or whole current general purpose meter Wh recording accumulated energy</u>	<u>(Item 4a)</u>

<u>Type</u>	<u>Volume limit per annum per connection point</u>	<u>Maximum allowable overall error (±%) at full load (Item 7) active reactive</u>		<u>Minimum acceptable class or standard of components</u>	<u>Metering installation clock error (seconds) in reference to EST</u>
				<u>data only. Processes used to convert the accumulated metering data into trading interval metering data and estimated metering data where necessary are included in the metrology procedure.</u> <u>(Item 1)</u>	
<u>7</u>	<u>volume limit not specified</u> <u>(Item 5)</u>	<u>(Item 6)</u>	<u>n/a</u>	<u>No meter. The metering data is calculated metering data determined in accordance with the metrology procedure.</u>	<u>n/a</u>

Item 1: (a) For a type 3, 4, 5 and 6 *metering installation*, ~~whole current~~**direct connected** meters may be used if the *meters* meet the requirements of the relevant *Australian Standards* and *International Standards* which must be identified in the *metrology procedure*.

(b) The *metering installation* types referred to in paragraph (a) must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the *National Measurement Institute* under the *National Measurement Act*.

Item 2: *High Voltage* customers that require a *VT* and whose annual consumption is below ~~750 MWh~~**750MWh**, must meet the relevant accuracy requirements of *Type 3 metering* for *active energy* only.

Item 2a: For the purpose of clarification, the clock **error** for a type 4 *metering installation* may be relaxed in the *metrology procedure* to accommodate evolving whole-current technologies that are acceptable in accordance with rule 7.13(a).

Item 3: The following requirements apply in relation to a type 5 *metering installation*:

(1) ~~[Deleted] the installation must comply with the metrology procedure when converting active energy into metering data;~~

- (2) the value of "x" must be determined by each Minister of a participating jurisdiction and:
 - (i) the "x" value must be provided to AEMO; and
 - (ii) AEMO must record the "x" value in the metrology procedure;~~the value of "x" must be determined by each Minister of a participating jurisdiction and must be provided to AEMO for inclusion in the metrology procedure;~~
- (3) the maximum acceptable value of "x" determined under subparagraph (2) must be 750 MWh per annum; and
- (4) ~~[Deleted]the installation may provide delays in transferring the interval energy data to a remote location where access to a telecommunications network has been established;~~
- (5) ~~[Deleted]delays under subparagraph (4) must be approved by the relevant Minister of the participating jurisdiction and the approval provided to AEMO for inclusion in the metrology procedure; and~~
- (6) ~~[Deleted]the metrology procedure must record the value of "x" for each participating jurisdiction, and indicate how interval energy data will be established for a type 5 metering installation in that participating jurisdiction during the period of delay.~~

Item 3a: For the purpose of clarification, the clock error for a type 5 metering installation may be relaxed in the *metrology procedure* to accommodate evolving whole-current technologies that are acceptable in accordance with rule 7.13(a).

Item 3b: The maximum allowable error of a type 5 metering installation may be relaxed in the *metrology procedure* to accommodate evolving technologies providing that such relaxation is consistent with any regulations published under the *National Measurement Act*.

Item 4: The following requirements apply in relation to a type 6 metering installation:

- (1) a *metrology procedure* must include a procedure relating to converting active energy into metering data;
- (2) the value of "y" must be determined by each Minister of a participating jurisdiction and:~~the value of "y" must be determined by each Minister of a participating jurisdiction and be provided to AEMO for inclusion in the metrology procedure;~~
 - (i) the "y" value must be provided to AEMO; and
 - (ii) AEMO must record the "y" value in the metrology procedure;
- (3) the maximum acceptable value of "y" determined under subparagraph (2)

must be 750 MWh per annum;

- (4) ~~[Deleted] accumulated energy data can be transferred to a remote location where access to a telecommunication network has been established;~~
- (5) ~~[Deleted] the metrology procedure must:~~
 - ~~(i) record the value of “y” for each participating jurisdiction;~~
 - ~~(ii) identify the method by which accumulated energy data is to be converted into trading interval data in accordance with clause 7.9.3(b), and~~
 - ~~(iii) the method by which estimated energy data is to be prepared during the period when the accumulated energy data is not available; and~~
- (6) devices within the metering installation may record ~~devices within the installation may provide~~ accumulated energy data in pre-determined daily time periods where such time periods are contained in the *metrology procedure*.

Item 4a: Any relevant clock errors for a type 6 *metering installation* are to be established in the *metrology procedure*.

Item 4b: The maximum allowable error of a type 6 *metering installation* may be relaxed in the *metrology procedure* providing that such relaxation is consistent with any regulations published under the *National Measurement Act*.

Item 5: (a) A type 7 *metering installation* classification applies where a *metering installation* does not require a *meter* to measure the flow of electricity in a power conductor and accordingly there is a requirement to determine by other means the *metering data that is deemed to correspond to the flow of electricity in the power conductor* ~~*energy data that is deemed to flow in the power conductor*~~.

- (b) The condition referred to in paragraph (a) will only be allowed for *connection points* where AEMO in consultation with the *Local Network Service Provider* determines:
 - (1) the load pattern is predictable;
 - (2) for the purposes of *settlements*, the load pattern can be reasonably calculated by a relevant method set out in the *metrology procedure*; and
 - (3) it would not be cost effective to meter the *connection point* taking into account:
 - (i) the small magnitude of the *load*;
 - (ii) the *connection* arrangements; and
 - (iii) the geographical and physical location.

- (c) The *metrology procedure* must include arrangements for type 7 *metering installations* that have been classified as *market loads*.
- (d) A *connection point* that meets the condition for classification as a type 7 *metering installation* does not prevent that connection point from being subject to metering ~~limit that connection point from being metered~~ in the future.

Item 6: ~~The accuracy of the calculated energy data is to be in accordance with approved techniques for determining the flow of electricity in power conductors. The techniques, including algorithms, are to be included in the metrology procedure.]~~

Item 7: The maximum allowable overall error (±%) at different loads and power factors is set out in Table S7.2.3.2 to Table S7.2.3.6.

Table S7.2.3.2 Type 1 Installation – Annual Energy Throughput greater than 1,000 GWh

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	1.0%	1.0%	2.0%	n/a	n/a	1.4%
50	0.5%	0.5%	1.0%	0.7%	1.4%	1.0%
100	0.5%	0.5%	1.0%	n/a	n/a	1.0%

Table S7.2.3.3 Type 2 Installation – Annual Energy Throughput between 100 and 1,000 GWh

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	2.0%	2.0%	4.0%	n/a	n/a	2.8%
50	1.0%	1.0%	2.0%	1.5%	3.0%	2.0%
100	1.0%	1.0%	2.0%	n/a	n/a	2.0%

Table S7.2.3.4 Type 3 Installation – Annual Energy Throughput from 0.75 GWh to less than 100 GWh

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	2.5%	2.5%	5.0%	n/a	n/a	4.0%

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
50	1.5%	1.5%	3.0%	2.5%	5.0%	3.0%
100	1.5%	1.5%	3.0%	n/a	n/a	3.0%

Table S7.2.3.5 Type 4 or 5 Installation – Annual Energy Throughput less than 0.75 GWh

% Rated Load	Power Factor		
	Unity	0.866 lagging	0.5 lagging
	active	active	active
10	2.5%	2.5%	n/a
50	1.5%	1.5%	2.5%
100	1.5%	1.5%	n/a

Table S7.2.3.6 Type 6 Installation – Annual Energy Throughput less than 0.75 GWh

% Rated Load	Power Factor		
	Unity	0.866 lagging	0.5 lagging
	active	active	active
10	3.0%	n/a	n/a
50	2.0%	n/a	3.0%
100	2.0%	n/a	n/a

NOTE:

All measurements in Tables S7.2.3.2 – S7.2.3.6 are to be referred to 25 degrees Celsius.

- (a) The method for calculating the overall error is the vector sum of the errors of each component part (that is, $a + b + c$) where:

a = the error of the *voltage transformer* and wiring;

b = the error of the *current transformer* and wiring; and

c = the error of the *meter*.

- (b) If compensation is carried out then the resultant ~~metering data~~~~metering system~~ error shall be as close as practicable to zero.

S7.2.4. Check metering

(a) *Check metering* is to be applied in accordance with the following Table:

<u>Metering Installation Type in accordance with Table S7.2.3.1</u>	<u>Check Metering Requirements</u>
<u>1</u>	<u>Check metering installation</u>
<u>2</u>	<u>Partial check metering</u>
<u>3</u>	<u>No requirement</u>
<u>4, 5 and 6</u>	<u>No requirement</u>

Type	Energy (GWh pa) per metering point	Check Metering Requirements
1	greater than 1000	Check metering installation
2	100 to 1000	Partial check metering
3	0.75 to less than 100	No requirement
4, 5 and 6	Less than 0.75	No requirement

(b) A *check metering installation* involves either:

- (1) the provision of a separate *metering installation* using separate *current transformer* cores and separately fused *voltage transformer* secondary circuits, preferably from separate secondary windings: or
- (2) if in *AEMO's* absolute discretion it is considered appropriate, in the case of a *metering installation* located at the facility at one end of the *two-terminal link*, a *metering installation* located at the facility at the other end of a *two-terminal link*.

(c) Where the *check metering installation* duplicates the ~~revenue~~ *metering installation* and accuracy level, the average of the two validated data sets will be used to determine the *energy* measurement.

(d) *Partial check metering* involves the use of other *metering data* or operational data available to *AEMO* in 30 min electronic format as part of a validation process in accordance with [the metrology procedure](#)~~clause 7.9.4~~.

(e) The physical arrangement of *partial check metering* shall be agreed between the *responsible person* and *AEMO*.

- (f) *Check metering installations* may be supplied from secondary circuits used for other purposes and may have a lower level of accuracy than the ~~revenue metering installation~~, but must not exceed twice the level prescribed for the ~~revenue metering installation~~.

S7.2.5. Resolution and accuracy of displayed or captured data

Programmable settings available within a *metering installation*, ~~data logger~~ or any peripheral device, which may affect the resolution of displayed or stored data, must:

- (a) meet the requirements of the relevant *Australian Standards* and International Standards which must be identified in the *metrology procedure*; and
- (b) comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the *National Measurement Act*.

S7.2.6. General design standards

S7.2.6.1 Design requirements

Without limiting the scope of detailed design, the following requirements must be incorporated in the design of each *metering installation*:

- (a) For *metering installations* greater than 1000 GWh pa per connection point~~metering point~~, the *current transformer* core and secondary wiring associated with the meter(s)~~revenue meter~~ shall not be used for any other purpose unless otherwise agreed by *AEMO*.
- (b) For *metering installations* less than 1000 GWh pa per connection point~~metering point~~ the *current transformer* core and secondary wiring associated with the meter(s)~~revenue meter~~ may be used for other purposes (e.g. local *metering* or protection) provided the *responsible person* demonstrates to the satisfaction of *AEMO* that the accuracy of the *metering installation* is not compromised and suitable procedures/measures are in place to protect the security of the *metering installation*.
- (c) Where a *voltage transformer* is required, if separate secondary windings are not provided, then the *voltage* supply to each *metering installation* must be separately fused and located in an accessible position as near as practical to the *voltage transformer* secondary winding.
- (d) Secondary wiring must be by the most direct route and the number of terminations and links must be kept to a minimum.
- (e) The incidence and magnitude of burden changes on any secondary winding supplying the *metering installation* must be kept to a minimum.
- (f) *Meters* must:
 - (1) meet the requirements of relevant *Australian Standards* and International Standards which must be identified in the *metrology procedure*; and

- (2) have a valid pattern approval issued under the authority of the National Measurement Institute or, until relevant pattern approvals exist, a valid type test certificate.
- (g) New *instrument transformers* must:
 - (1) meet the requirements of relevant *Australian Standards* and International Standards which must be identified in the *metrology procedure*; and
 - (2) have a valid pattern approval issued under the authority of the National Measurement Institute or, until relevant pattern approvals exist, a valid type test certificate.
- (h) Suitable *isolation* facilities are to be provided to facilitate testing and calibration of the *metering installation*.
- (i) Suitable drawings and supporting information, detailing the *metering installation*, must be available for maintenance and auditing purposes.

S7.2.6.2 Design guidelines

In addition to the above Design Requirements, the following guidelines should be considered for each *metering installation*:

- (a) The provision of separate secondary windings for each *metering installation* where a *voltage transformer* is required.
- (b) A *voltage* changeover scheme where more than one *voltage transformer* is available.

Schedule 7.3 Inspection and Testing Requirements

S7.3.1. General

- (a) The *responsible person* must ensure that equipment comprised in a purchased *metering installation* has been tested to the required class accuracy with less than the uncertainties set out in Table S7.3.1.
- (b) The *responsible person* must ensure appropriate test certificates of the tests referred to in paragraph (a) are retained.
- (c) The *responsible person* (or any other person arranging for testing) must ensure that testing of the *metering installation* is carried out:
 - (1) in accordance with clause 7.6.1 and this schedule 7.3; or
 - (2) in accordance with an asset management strategy that defines an alternative testing practice (other than time-based) determined by the *responsible person* and approved by *AEMO*,and:
 - (3) in accordance with a test plan which has been registered with *AEMO*;

- (4) to the same requirements as for new equipment where equipment is to be recycled for use in another site; and
 - (5) so as to include all data storage and processing components included in the *metrology procedure*, including algorithms used to prepare agreed load patterns.
- (d) *AEMO* must review the prescribed testing requirements in this schedule 7.3 every 5 years in accordance with equipment performance and industry standards.
- (e) The testing intervals may be increased if the equipment type/experience proves favourable.
- (f) The maximum allowable level of testing uncertainty (\pm) for all *metering* equipment must be in accordance with Table S7.3.1.

Table S7.3.1 Maximum Allowable Level of Testing Uncertainty (\pm)

Description		Metering Equipment Class				
		Class 0.2	Class 0.5	Class 1.0	General Purpose	Class 2.0
In Laboratory	CTs ratio	0.05%	0.1%	n/a	n/a	n/a
	phase	0.07 crad	0.15 crad			
	VTs ratio	0.05%	0.1%	n/a	n/a	n/a
	Phase	0.05 crad	0.1 crad			
	Meters Wh	0.05/cos ϕ %	0.1/cos ϕ %	0.2/cos ϕ %	0.2/cos ϕ %	n/a
	Meters varh	n/a	0.2/sin ϕ %	0.3/sin ϕ %	n/a	0.4/sin ϕ %
In Field	CTs ratio	0.1%	0.2%	n/a	n/a	n/a
	Phase	0.15 crad	0.3 crad			
	VTs ratio	0.1%	0.2%	n/a	n/a	n/a
	Phase	0.1 crad	0.2 crad			
	Meters Wh	0.1/cos ϕ %	0.2/cos ϕ %	0.3/cos ϕ %	0.3/cos ϕ %	n/a
		Meters varh	n/a	0.3/sin ϕ %	0.4/sin ϕ %	n/a

Where cos ϕ is the power factor at the test point under evaluation.

Table S7.3.2 Maximum Period Between Tests

Unless the *responsible person* has developed an asset management strategy that defines practices that meet the intent of this schedule 7.3 and is approved by *AEMO*, the maximum period between tests must be in accordance with this Table S7.3.2.

Description	Metering Installation Type				
	Type 1	Type 2	Type 3	Type 4	Types 5 & 6
CT	10 years	10 years	10 years	10 years	10 years
VT	10 years	10 years	10 years		n/a
Burden tests	When <i>meters</i> are tested or when changes are made				
CT connected Meter (electronic)	5 years	5 years	5 years	5 years	5 years
CT connected Meter (induction)	2.5 years	2.5 years	5 years	5 years	5 years
Whole current Meter (Direct Connected Meter)	The testing and inspection requirements must be in accordance with an asset management strategy. Guidelines for the development of the asset management strategy must be recorded in the <i>metrology procedure</i> .				

Table S7.3.3 Period Between Inspections

Unless the *responsible person* has developed an asset management strategy that meets the intent of this schedule 7.3 and is approved by *AEMO*, the period between inspections must be in accordance with this Table S7.3.3.

Description	Metering Installation Type			
	Type 1	Type 2	Type 3	Type 4, 5 & 6
<i>Metering installation equipment inspection</i>	2.5 years Note: increased inspection period allowed because of <i>check metering installation</i> requirements.	12 months (2.5 years if <i>check metering</i> installed)	> 10 GWh: 2 years 2 ≤ GWh ≤ 10: 3 years 2 ≤ < 10 GWh: 3 years < 2 GWh: when meter is tested.	When meter is tested.

S7.3.2. Technical Guidelines

- (a) *Current transformer* and *voltage transformer* tests are primary injection tests or other testing procedures as approved by *AEMO*.
- (b) The calculations of accuracy based on test results are to include all reference standard errors.
- (c) An “estimate of testing uncertainties” must be calculated in accordance with the ISO “Guide to the Expression of Uncertainty for Measurement”.

- (d) Where operational *metering* is associated with *settlements metering* then a shorter period between inspections is recommended.
- (e) For $\sin\phi$ and $\cos\phi$ refer to the ISO “Guide to the Expression of Uncertainty in Measurement”, where $\cos\phi$ is the *power factor*.
- (f) A typical inspection may include:
 - (1) check the seals;
 - (2) compare the pulse counts;
 - (3) compare the direct readings of *meters*;
 - (4) verify *meter* parameters and physical connections; and
 - (5) *current transformer* ratios by comparison.

Schedule 7.4 Metering Provider

S7.4.1 General

- (a) A *Metering Provider* must be accredited by and registered by AEMO. AEMO must accredit and register a *Metering Provider* only for the type of work the *Metering Provider* is qualified to provide.
- (b) AEMO must establish a qualification process for *Metering Providers* that enables registration to be achieved in accordance with the requirements of this schedule 7.4.
- (c) **[Deleted]**
- (d) A *Metering Provider* must have the necessary licenses in accordance with appropriate State and Territory requirements.
- (e) A *Metering Provider* must ensure that any *metering* equipment it installs is suitable for the range of operating conditions to which it will be exposed (e.g. temperature; impulse levels), and operates within the defined limits for that equipment.
- (f) A *Metering Provider* must ensure that the *metering installation* is installed and maintained in accordance with the *metrology procedure*.

S7.4.2 Categories of registration

- (a) Registrations for *Metering Providers* in relation to the provision, installation and maintenance of *metering installation* types 1, 2, 3 and 4 must be categorised in accordance with Tables S7.4.1, S7.4.2 and S7.4.3, or other procedures approved by AEMO. ~~Registrations, in relation to *metering installation* types 1, 2, 3 and 4, must be categorised in accordance with Tables S7.4.1, S7.4.2 and S7.4.3 or other procedures approved by AEMO.~~

- (b) ~~In relation to metering installation types 5, 6 and 7, AEMO must establish categories of registration which are consistent with the service requirements established in the metrology procedure.~~
- (c) Registrations for Metering Providers in relation to the provision, installation and maintenance (unless otherwise specified) of metering installation types 5 and 6 must be categorised in accordance with Table S7.4.4 with the capabilities established in the metrology procedures. ~~AEMO may establish Accredited Service Provider categories of registration for a Metering Provider in accordance with clause S7.4.5.~~

Table S7.4.1 Categories of registration for accreditation

Category	Competency
1C	Class 0.2 CTs with < 0.1% uncertainty.
1V	Class 0.2 VTs with < 0.1% uncertainty.
1M	Class 0.2 Wh meters with < 0.1/ $\cos\phi$ % uncertainty and class 0.5 varh meters with < 0.3/sin ϕ uncertainty.
1A	Class 0.2 CTs, VTs, Wh meters; class 0.5 varh meters; the total installation to 0.5%. Wh with < 0.2% uncertainty at unity <i>power factor</i> ; 1.0% for varh with < 0.4% uncertainty at zero <i>power factor</i> .
2C	Class 0.5 CTs with < 0.2% uncertainty.
2V	Class 0.5 VTs with < 0.2% uncertainty.
2M	Class 0.5 Wh meters with < 0.2/cos ϕ uncertainty and class 1.0 varh meters with < 0.4/sin ϕ uncertainty.
2A	Class 0.5 CTs, VTs, Wh meters; class 1.0 varh meters; the total installation to 1.0%. Wh with < 0.4% uncertainty at unity <i>power factor</i> ; 2.0% for varh with < 0.5% uncertainty at zero <i>power factor</i> .

Table S7.4.2 Categories of registration for accreditation

Category	Competency
3M	Class 1.0 Wh meters with < 0.3/cos ϕ uncertainty and class 2.0 varh meters with < 0.5/sin ϕ % uncertainty.
3A	Class 0.5 CTs, VTs; class 1.0 Wh meters; class 2.0% varh meters; the total installation to 1.5%. Wh with < 0.5% uncertainty at unity <i>power factor</i> ; 3.0% for varh with < 0.6% uncertainty at zero <i>power factor</i> .

Category	Competency
4M	Class 1.0 Wh meters and class 1.5 Wh meters with $<0.3/\cos\phi\%$ uncertainty

Table S7.4.3 Categories of registration for accreditation

Category	Competency
L	Approved Communications Interface Communication Link Installer

Table S7.4.4 Categories of registration for accreditation

<u>Category</u>	<u>Competency</u>
<u>5A Installation only</u>	<u>Class 1.0 and class 1.5 whole current Wh meters with $<0.3/\cos\phi\%$ uncertainty.</u>
<u>6A Installation only</u>	<u>Class 1.5 whole current Wh meters with $<0.3/\cos\phi\%$ uncertainty.</u>
<u>5B</u>	<u>Class 1.0 and class 1.5 whole current or CT connected Wh meters with $<0.3\cos\phi\%$ uncertainty.</u>
<u>6B</u>	<u>Class 1.5 whole current or CT connected Wh meters with $<0.3/\cos\phi\%$ uncertainty.</u>

S7.4.3 Capabilities of Metering Providers for metering installations types 1, 2, 3 and 4

Category 1A, 2A, 3A and 4M *Metering Providers* must be able to exhibit the following capabilities to the reasonable satisfaction of AEMO:

- (a) Detailed design and specification of *metering* schemes, including:
 - (1) knowledge and understanding of this Chapter 7;
 - (2) knowledge of equipment (*meters, current transformers* and where applicable *voltage transformers*);
 - (3) design experience including knowledge of *current transformers* and where applicable *voltage transformers* and the effect of burdens on performance;
 - (4) ability to calculate summation scheme values, multipliers, etc; and
 - (5) ability to produce documentation, such as single line diagrams, panel layouts and wiring diagrams.
- (b) Programming and certification requirements for *metering installations* to the required accuracy, including:

- (1) licensed access to *metering* software applicable to all equipment being installed by the *Metering Provider*;
 - (2) ability to program requirements by setting variables in *meters*, summators, modems, etc;
 - (3) management of the testing of all equipment to the accuracy requirements specified in this Chapter 7;
 - (4) certifications that all calibration and other *meter* parameters have been set, verified and recorded prior to *meters*, and other components of the metering installation~~data loggers, etc.,~~ being released for installation;
 - (5) all reference/calibration equipment for the purpose of meeting test or inspection obligations must be tested to ensure full traceability to test certificates issued by a *NATA* accredited body or a body recognised by *NATA* under the International Laboratory Accreditation Corporation (**ILAC**) mutual recognition scheme and documentation of the traceability must be provided to *AEMO* on request; and
 - (6) compliance with ISO/IEC Guide 25 "General Requirements for the Competence of Calibration and Testing Laboratories" with regard to the calculation of uncertainties and accuracy.
- (c) Installation and commissioning of *metering installations*~~, and where necessary, the communications interface to facilitate the remote acquisition of metering data~~including the remote accessing of data, including:
- (1) the use of calibrated test equipment to perform primary injection tests and field accuracy tests;
 - (2) the availability of trained and competent staff to install and test *metering installations* to determine that installation is correct; and
 - (3) the use of test procedures to confirm that the *metering installation* is correct and that *metering* constants are recorded and/or programmed correctly.
- (d) Inspection and maintenance of *metering installations* and equipment, including:
- (1) regular readings of the measurement device where external recording is~~data loggers or recorders to be~~ used (6 monthly) and verification with *AEMO* records;
 - (2) approved test and inspection procedures to perform appropriate tests as detailed in this Chapter 7;
 - (3) calibrated field test equipment for primary injection and *meter* testing to the required levels of uncertainty; and
 - (4) secure documentation system to maintain *metering* records for all work performed on a *metering installation*, including details of the security method used.
- (e) Verification of ~~revenue~~ *metering data* and *check metering data*, as follows:

- (1) on commissioning *metering data*, verification of all readings, constraints (adjustments) and multipliers to be used for converting raw data to consumption data; and
 - (2) on inspection, testing and/or maintenance, verification that readings, constants and multipliers are correct by direct conversion of *meter readings* and check against the *metering database*.
- (f) Quality System as AS 9000 series standards, including:
- (1) a quality system to AS/NZ ISO 9000 series applicable to the work to be performed:
 - Type 1 - full implementation of AS/NZ ISO 9002;
 - Type 2 - full implementation of AS/NZ ISO 9002;
 - Type 3 - implementation of AS/NZ ISO 9002 to a level agreed with *AEMO*;
 - Type 4 - implementation of AS/NZ ISO 9002 to a level agreed with *AEMO*;
 - (2) the calculations of accuracy based on test results are to include all reference standard errors;
 - (3) an estimate of Testing Uncertainties which must be calculated in accordance with the ISO “Guide to the Expression of Uncertainty in Measurement”; and
 - (4) a knowledge and understanding of the appropriate standards and guides, including those in the *Rules*.
- (g) All of the capabilities relevant to that type of *metering installation* which are set out in the *Rules* and procedures authorised under the *Rules*.

S7.4.4 Capabilities of Metering Providers for metering installations types 5 and ~~65, 6 and 7~~

Metering Providers, who apply for categories of *Metering Provider* accreditation of *metering installations* types 5 and/or ~~65, 6 and 7~~, must be able to exhibit, to the reasonable satisfaction of *AEMO*:

- (a) all of the capabilities relevant to that type of *metering installation* which are set out in the *Rules* and procedures authorised under the *Rules*. ~~included in clause S7.4.3;~~
- (b) ~~[Deleted] any relevant capabilities required for data processing specified in the *metrology procedure*; and~~
- (a) ~~[Deleted] an acceptable standard of performance, determined by reference to the *metrology procedure*, for each of the processes and devices identified in the *metrology procedure*.~~

S7.4.5 Capabilities of the Accredited Service Provider category

- (a) The *Accredited Service Providers categories* established by AEMO under clause S7.4.2(c) may perform work relating to the installation of any types 1, 2, 3, 4, 5 or 6 *metering installations*.
- (b) AEMO must include *Accredited Service Provider categories* in the accreditation guidelines prepared and *published* under clause 7.4.2(ba).
- (c) AEMO may determine:
 - (1) the competencies of a *Metering Provider* registered in each *Accredited Service Provider category* provided that those competencies are consistent with any [capabilities](#) ~~service requirements~~ established in the *metrology procedure* in respect of the work performed under paragraph (a); and
 - (2) different competencies for each *Accredited Service Provider category* for each *participating jurisdiction*.

Schedule 7.5 Metering Register

S7.5.1. General

- (a) The *metering register* forms part of the *metering database* and holds static *metering* information associated with *metering installations* defined by the *Rules* that determines the validity and accuracy of *metering data*.
- (b) The purpose of the *metering register* is to facilitate:
 - (1) the registration of *connection points*, *metering points* and affected *Registered Participants*;
 - (2) the verification of compliance with the *Rules*; and
 - (3) the auditable control of changes to the registered information.
- (c) The data in the *metering register* is to be regarded as confidential and would only be released to the appropriate party in accordance with rule 7.7.

S7.5.2. Metering register information

Metering information to be contained in the *metering register* should include, but is not limited to the following:

- (a) *Connection* and *metering point* reference details, including:
 - (1) agreed locations and reference details (eg drawing numbers);
 - (2) loss compensation calculation details;
 - (3) site identification names;
 - (4) details of *Market Participants* and *Local Network Service Providers* associated with the *connection point*;

- (5) nomination of the *responsible person*; and
 - (6) transfer date for *Second-Tier Customer* and *Non-Registered Second-Tier Customer metering data* (i.e. to another *Market Customer*).
- (b) The identity and characteristics of *metering* equipment (ie *instrument transformers*, ~~revenue~~ *metering installation* and *check metering installation*), including:
- (1) serial numbers;
 - (2) *metering installation* identification name;
 - (3) *metering installation* types and models;
 - (4) *instrument transformer* ratios (available and connected);
 - (5) current test and calibration programme details, test results and references to test certificates;
 - (6) asset management plan and testing schedule;
 - (7) calibration tables, where applied to achieve *metering installation* accuracy;
 - (8) *Metering Provider(s)* [and Metering Data Provider\(s\)](#) details;
 - (9) summation scheme values and multipliers; and
 - (10) data register coding details.
- (c) Data communication details, including:
- (1) telephone number(s) for access to [energy data](#)~~data~~;
 - (2) communication equipment type and serial numbers;
 - (3) communication protocol details or references;
 - (4) data conversion details;
 - (5) user identifications and access rights; and
 - (6) 'write' password (to be contained in a hidden or protected field).
- (d) Data validation, substitution and estimation processes agreed between affected parties, including:
- (1) algorithms;
 - (2) data comparison techniques;
 - (3) processing and alarms (eg *voltage* source limits; phase-angle limits);
 - (4) *check metering* compensation details; and

- (5) alternate data sources.
- (e) Data processing prior to the *settlement* process, including algorithms for:
 - (1) *generation* half-hourly 'sent-out' calculation;
 - (2) customer half-hourly *load* calculation; and
 - (3) *Local Retailer* net load calculation.

Schedule 7.6 Metering Data Provider

S7.6.1 General

- (a) A Metering Data Provider must be accredited by and registered by AEMO.
- (b) AEMO must accredit and register a Metering Data Provider only for the type of work the Metering Data Provider is qualified to provide.
- (c) AEMO must establish a qualification process for Metering Data Providers that enables registration to be achieved in accordance with the requirements of this schedule 7.6.
- (d) A Metering Data Provider must ensure that metering data services are carried out in accordance with the Rules and procedures authorised under the Rules.

S7.6.2 Categories of registration

Categories of registration are set out in Table S7.6.2.

Table S7.6.2 Categories of registration for accreditation

<u>Metering installation type</u>	<u>Categories of registration</u>	
<u>1, 2 3 and/or 4</u>	<u>Category 1D, 2D, 3D and/or 4D (for remote acquisition, processing and delivery of metering data for connection points)</u>	
<u>5 and/or 6</u>	<u>Category 5C and/or 6C (for manual collection or remote acquisition of metering data)</u>	<u>Category 5D and/or 6D (for manual collection, processing and delivery of metering data) (for remote acquisition, processing and delivery of metering data)</u>
<u>7</u>	<u>Category 7D (for processing and delivery of metering data)</u>	

S7.6.3 Capabilities of Metering Data Providers

Metering Data Providers must be able to exhibit to the reasonable satisfaction of AEMO the following capabilities, as applicable, for the categories of Metering Data Provider accreditation sought:

- (a) Detailed understanding of the Rules, and all procedures authorised under the Rules including the relevant service level procedures relating to the function of a Metering Data Provider and the carrying out of metering data services.
- (b) Detailed understanding of the participant role relationships and obligations that exist between the Metering Data Provider, Metering Provider, financially responsible Market Participant, Local Network Service Provider, AEMO and the responsible person.
- (c) An understanding of metering arrangements, including knowledge of metering equipment (meters, current transformers and voltage transformers).
- (d) Authorised access to metering software for the:
 - (1) collection of metering data;
 - (2) establishment, maintenance and operation of a metering data services database for the storage and management of metering data and NMI Standing Data; and
 - (3) the validation, substitution and estimation of metering data.
- (e) Processes and systems for the collection of metering data including:
 - (1) knowledge of manual collection and remote acquisition of metering data (as applicable);
 - (2) collection technologies and methodologies; and
 - (3) metering protocols and equipment.
- (f) Systems for the processing of metering data including:
 - (1) processes for the verification and commissioning of metering data and relevant NMI Standing Data pertaining to each metering installation into the metering data services database;
 - (2) processes for validation, substitution and estimation of metering data;
 - (3) processes for the storage, adjustment and aggregation of metering data; and
 - (4) the secure storage of historical data.
- (g) Processes for the delivery of metering data and relevant NMI Standing Data to Registered Participants and AEMO including:
 - (1) delivery performance requirements for metering data; and

(2) an understanding of the relevant *metering data* file formats.

(h) The availability of trained and competent staff to:

(1) read or interrogate the *metering installation*;

(2) collect and process metering data into the *metering data services database*;

(3) validate, substitute or estimate *metering data* as the case may be;

(4) maintain the physical and logical security of the *metering data services database* and only allow access to *metering data* by those persons entitled to receive *metering data*; and

(5) ensure the ongoing performance and availability of the collection process and the *metering data services database* are maintained inclusive of necessary system supports for backup, archiving and disaster recovery.

(i) The establishment of a quality system which will:

(1) underpin all operational documentation, processes and procedures;

(2) facilitate good change control management of procedures, IT systems and software;

(3) provide audit trail management of *metering data* and *NMI Standing Data*;

(4) maintain security controls and data integrity; and

(5) maintain knowledge and understanding of the *Rules* and relevant procedures, standards and guides authorised under the *Rules*.

(j) Understanding of the required logical interfaces necessary to support the provision of *metering data services* including the interfaces needed to:

(1) access *AEMO's* systems for the management and delivery of *metering data*;

(2) support *B2B procedures*; and

(3) support *Market Settlement and Transfer Solution Procedures* for delivery and update of *NMI Standing Data*.

CHAPTER 10

10. Glossary

accumulated energy data

The data that results from the measurement of the flow of electricity in a power conductor where the data represents a period in excess of a *trading interval*. *Accumulated energy data* is held in the *metering installation* and the *metering database*. The measurement is carried out at a *metering point*.

accumulated metering data

The *accumulated energy data*, once collected from a *metering installation*, is *accumulated metering data*. *Accumulated metering data* is held in a *metering data services database*.

calculated metering data

The *trading interval* data corresponding to the calculation of consumed energy for a type 7 *metering installation* in accordance with the *metrology procedure*. *Calculated metering data* is held in the *metering data services database* and the *metering database*.

~~The data that results from the measurement of the flow of electricity in a power conductor where the data represents a period in excess of a *trading interval*. The measurement is carried out at a *metering point*.~~

~~*agency data collection system*~~

~~The system used by the operator of an *agency metering database* to collect, process and transfer the *metering data* from a *meter* to the *AEMO settlements* process.~~

~~*agency metering database*~~

~~A *metering database* which is operated under a service level agreement with *AEMO*.~~

check meter

An additional *meter* used as a source of *check metering data* for Type 1 and Type 2 *metering installations* as specified in schedule 7.2.

~~A *meter*, other than a *revenue meter*, used as a source of *metering data* for Type 1 and Type 2 *metering installations* as specified in schedule 7.2.~~

check metering data

The *energy data*, once collected from a *check metering installation*, is *check metering data*. *Check metering data* is held in a *metering data services database* and the *metering database*.

~~The *metering data* obtained from a *check metering installation*.~~

check metering installation

A metering installation that includes a check meter which is used as the source of check metering data for validation in the settlements process.

communications interface

The modem and other devices and processes that facilitate the connection between the metering installation and the telecommunications network for the purpose of the remote acquisition of metering data.

estimated metering data

The estimated values of accumulated metering data, interval metering data or calculated metering data that have been prepared in accordance with the metrology procedure. Estimated metering data is held in a metering data services database and the metering database.

~~*A metering installation used as the source of metering data for validation in the settlements process.*~~

~~*communication link*~~

~~*All communications equipment, processes and arrangements that lie between the meter and the data logger, where the data logger is external to the device that contains the measurement elements, and/or the data logger and the telecommunications network.*~~

~~*data collection system*~~

~~*All equipment and arrangements that lie between the metering database and the point where the metering data enters the telecommunications network.*~~

~~*data logger*~~

~~*A metering installation database or a device that collects electronic signals from a measurement element and packages it into 30 minute intervals (or sub-multiples). This device may contain data storage capability, be a separate item of equipment, and/or be combined with the energy measuring components within one physical device.*~~

~~*energy data services*~~

~~The services that involve:~~

- ~~(1) — collation of energy data from the meter or meter/associated data logger;~~
- ~~(2) — the processing of the energy data in the metering installation database;~~
- ~~(3) — storage of the energy data in the metering installation database; and~~
- ~~(4) — the provision of access to the data for those parties that have rights of access to the data.~~

~~*estimated energy data*~~

~~The data that results from an estimation of the flow of electricity in a power conductor where the data applies to a trading interval or a period in excess of a trading interval. The estimation is made in relation to a market load and would not apply to a metering~~

~~point where accumulated energy data or interval energy data is not available, or an unmetered connection point.~~

interval energy data

The data that results from the measurement of the flow of electricity in a power conductor where the data is prepared and recorded by the metering installation in intervals which correspond to a trading interval or are sub-multiples of a trading interval. Interval energy data is held in the metering installation.

interval metering data

The interval energy data, once collected from a metering installation, is interval metering data. Interval metering data is held in a metering data services database and the metering database.

~~The data that results from the measurement of the flow of electricity in a power conductor where the data is prepared by a data logger into intervals which correspond to a trading interval or are sub-multiples of a trading interval.~~

Market Management Systems Access Procedures

The procedures to be followed by Registered Participants, Metering Providers and Metering Data Providers in connecting to and making use of the market management systems from time to time published by AEMO under rule 3.19.

~~The procedures to be followed by Registered Participants and Metering Providers in connecting to and making use of the market management systems from time to time published by AEMO under clause 3.19.~~

metering data

Accumulated metering data, interval metering data, calculated metering data, substituted metering data, estimated metering data and check metering data.

Metering Data Provider

A person who meets the requirements listed in schedule 7.6 and has been accredited and registered by AEMO as a Metering Data Provider.

metering data services

The services that involve the collection, processing, storage and delivery of metering data and the management of relevant NMI Standing Data in accordance with the Rules.

metering data services database

The database established and maintained by the Metering Data Provider that holds metering data and relevant NMI Standing Data relating to each metering installation for which the responsible person or the financially responsible Market Participant or AEMO as the case may be has engaged the Metering Data Provider to provide metering data services.

~~The data obtained from a metering installation, the processed data or substituted data.~~

metering installation

The assembly of components including the *instrument transformer*, if any, measurement element(s) and processes, if any, recording and display equipment, *communications interface*, if any, that are controlled for the purpose of metrology and which lie between the *metering point(s)* and the point at or near the *metering point(s)* where the *energy data* is made available for collection.

Notes:

- (1) The assembly of components may include the combination of several metering points to derive the metering data for a connection point.
- (2) The metering installation must be classified as being for revenue purposes and/or as a check metering installation.
- (3) An unmetered connection point in accordance with schedule 7.2 does not require a meter; it is nevertheless considered as having a metering installation.

metering installation malfunction

The full or partial failure of the *metering installation* in which the *metering installation* does not:

- (a) meet the requirements of schedule 7.2; or
- (b) record, or incorrectly records, *energy data*; or
- (c) allow, or provides for, collection of *energy data*.

~~The assembly of components and/or processes that are controlled for the purpose of metrology and which lie between the *metering point(s)* or *unmetered connection point* and the point of connection to the *telecommunications network*, as shown in schedule 7.1.~~

Note:

~~The assembly of components may include the combination of several *metering points* to derive the *metering data* for a *connection point*. The *metering installation* must be classified as a *revenue metering installation* and/or a *check metering installation*.~~

profile

Metering data or costs for a period longer than a *trading interval* allocated into *trading intervals*.

~~*Energy data* or costs for a period longer than a *trading interval* allocated into *trading intervals*.~~

Registered Participant

A person who is registered by *AEMO* in any one or more of the categories listed in clauses 2.2 to 2.7 (in the case of a person who is registered by *AEMO* as a *Trader*, such a person is only a *Registered Participant* for the purposes referred to in clause 2.5A). However, as set out in clause 8.2.1(a1), for the purposes of some provisions of clause 8.2 only, *AEMO*, *Connection Applicants*, *Metering Providers* and *Metering Data Providers* who are not otherwise *Registered Participants* are also deemed to be *Registered Participants*.

~~A person who is registered by AEMO in any one or more of the categories listed in clauses 2.2 to 2.7 (in the case of a person who is registered by AEMO as a Trader or Reallocator, such a person is only a Registered Participant for the purposes referred to in clause 2.5A or 2.5B respectively). However, as set out in clause 8.2.1(a1), for the purposes of some provisions of clause 8.2 only, AEMO and Connection Applicants who are not otherwise Registered Participants are also deemed to be Registered Participants.~~

remote acquisition

The acquisition of interval metering data from a metering installation, where a telecommunications network transmits the metering data from the communications interface at site of the metering point to the metering data services database, and:

(a) does not, at any time, require the presence of a person at, or near, the interval meter for the purposes of data collection or data verification (whether this occurs manually as a walk-by reading or through the use of a vehicle as a close proximity drive-by reading), and

(b) includes but is not limited to methods that transmit metering data via:

- (1) fixed-line telephone ('direct dial-up');
- (2) satellite;
- (3) the internet;
- (4) wireless or radio, including mobile telephone networks;
- (5) power line carrier; or
- (6) any other equivalent technology.

Note:

For the requirements of clause 7.3.4(f) remote acquisition may collect other than interval metering data.

~~The acquisition of interval metering data from a metering installation, where the acquisition process transmits the metering data from the site of the metering point to the metering database, and does not, at any time, require the presence of a person at, or near, the interval meter for the purposes of data collection or data verification (whether this occurs manually as a walk-by reading or through the use of a vehicle as a close proximity drive by reading), and remote acquisition includes but is not limited to methods that transmit metering data via:~~

- ~~(1) direct dial up;~~
- ~~(2) satellite;~~
- ~~(3) the internet;~~
- ~~(4) a general packet radio service;~~
- ~~(5) power line carrier; or~~

~~(6) — any other equivalent technology.~~

responsible person

Has the meaning given in clause 7.2.1(a).

service level procedures

The procedures established under the *Rules consultation procedures* by AEMO in accordance with clause 7.14.1A.

~~The person who has responsibility for the provision of a *metering installation* for a particular *connection point*, being either the *Local Network Service Provider* or the *Market Participant* as described in Chapter 7.~~

revenue meter

~~The *meter* that is used for obtaining the primary source of *metering data*.~~

revenue metering data

~~The *metering data* obtained from a *revenue metering installation*.~~

revenue metering installation

~~A *metering installation* used as the primary source of *metering data* for the *settlements process*.~~

revenue metering point

~~The *metering point* at which the *revenue metering installation* is connected.~~

settlements ready data

The *metering data* that has undergone a validation and substitution process by AEMO for the purpose of *settlements* and is held in the *metering database*.

substituted metering data

The substituted values of *accumulated metering data*, *interval metering data* or *calculated metering data* prepared in accordance with the *metrology procedure*. *Substituted metering data* is held in a *metering data services database* and the *metering database*.

~~The *metering data* that has undergone a validation and substitution process by AEMO for the purpose of *settlements* and is delivered to the *metering database*.~~

telecommunications network

A *telecommunications network* that provides access for public use or an alternate *telecommunications network* that has been approved by AEMO for the *remote acquisition of metering data*.

~~A *telecommunications network* that provides access for public use or an alternate *telecommunications network* that has been approved by AEMO for the delivery of *metering data*.~~

type 5 accumulation boundary

The volume of energy for a connection point that has a type 5 metering installation above which the metering data must be collected as interval metering data for the purpose of producing settlements ready data.

Note:

Below the type 5 accumulation boundary, the metering data may be collected from the metering installation as accumulated metering data for the purpose of producing settlements ready data, in which case the metering installation must be registered with AEMO as a type 6 metering installation. Otherwise, the metering data may be collected as interval metering data for the purpose of producing settlements ready data in which case the metering installation must be registered with AEMO as a type 5 metering installation.

~~The volume of energy for a connection point above which the metering data that is extracted or emanates from a type 5 metering installation must be extracted or emanate as interval energy data for the purpose of producing settlements ready data.~~

Note:

~~Below the type 5 accumulation boundary, the metering data may be extracted or emanate from the metering installation as accumulated energy data for the purpose of producing settlements ready data, in which case the metering installation must be registered with AEMO as a type 6 metering installation. Otherwise the metering data may be extracted or emanate as interval energy data for the purpose of producing settlements ready data in which case the metering installation must be registered with AEMO as a type 5 metering installation.~~

CHAPTER 11

Part ZG Provision of Metering Data Services and Clarification of Existing Metrology Requirements

11.37 Rules consequential on the making of the National Electricity Amendment (Provision of Metering Data Services and Clarification of Existing Metrology Requirements) Rule 2010

11.37.1 Definitions

For the purposes of this rule 11.37:

Amending Rule means the National Electricity Amendment (Provision of Metering Data Services and Clarification of Existing Metrology Requirements) Rule 2010.

commencement date means 16 December 2010.

11.37.2 Commencement of special site or technology related conditions

- (a) AEMO is not required to comply with the obligation set out in clause 7.2.4A(c) until 6 months after the commencement date (but may comply with that obligation any time earlier than 6 months).
- (b) Prior to the publication of the document referred to in clause 7.2.4A(c)(1), AEMO may notify a *responsible person* or a *financially responsible Market Participant*, as appropriate, of the existence of a special site or technology related condition and that notification will operate to fulfil the requirement of clauses 7.2.4A(c)(1) and 7.2.4A(c)(2).

11.37.2 Initial service level procedures

- (a) AEMO is not required to comply with the obligation set out in clause 7.14.1A(b) until 9 months after the commencement date (but may comply with that obligation any time earlier than 9 months).
- (b) AEMO must establish and *publish* the initial *service level procedures* in accordance with clauses 7.1.3 and 7.14.1A within 9 months after the commencement date.
- (c) Prior to the publication of the initial *service level procedures*, AEMO may use *service level requirements* that are *published* and in common use by the *responsible person*, the *Metering Provider*, and the *Metering Data Provider*.
- (d) If, during the period between the commencement date and the *publication* of the initial *service level procedures*, AEMO:
 - (1) receives a request from a *responsible person*, a *Metering Provider* or a *Metering Data Provider*; and
 - (2) if that request relates to:

(i) an inconsistency between the *published* service level requirements and the requirements in clause 7.14.1A(c); or

(ii) an inadequacy in the *published* service level requirements when compared to the requirements in clause 7.14.1A(c).

AEMO must:

(3) make a determination in regard to that request in accordance with clause 7.1.4(e) if, in *AEMO's* reasonable opinion, the request referred to in paragraph (d) relates to matters that warrant resolution prior to *publication* of the initial *service level procedures*.

(e) For the purpose of this clause 11.37.2, the reference to procedure in clause 7.1.3(e) is a reference to any document that carries the determination specified in paragraph (d) (but not to the *service level procedures* referred to in clause 7.14.1A(b)).