7. Metering

Part A Introduction

7.1 Introduction to the Metering Chapter

7.1.1 Contents

This Chapter sets out provisions relating to:

(a) roles and responsibilities of financially responsible Market Participants, Metering Coordinators and AEMO;

(b) the appointment of and the qualifications and registration requirements applying to Metering Providers and Metering Data Providers;

(b1) the qualifications and registration requirements applying to Embedded Network Managers;

(c) the appointment of Metering Coordinators and Metering Coordinator default arrangements;

(d) metering installation requirements;

(e) metering data services and the metering database;

(f) metering register requirements, disclosure of NMI information and metering data provision to retail customers;

(g) security of, and rights to access, metering installations, services provided by metering installations, energy data held in metering installations and metering data from metering installations;

(h) procedures to be established, maintained and published by AEMO including the metrology procedures and service level procedures; and

(i) B2B arrangements.

Part B Roles and Responsibilities

7.2 Role and Responsibility of financially responsible Market Participant

7.2.1 Obligations of financially responsible Market Participants to establish metering installations

(a) Except as otherwise specified in paragraph (c), before participating in the market in respect of a connection point, and for so long as the financially responsible Market Participant continues to participate in the market in respect of a connection point, the financially responsible Market Participant must ensure that:
(1) a *Metering Coordinator* is appointed in respect of the *connection point* in accordance with clause 7.6.2;

(2) the *connection point* has a *metering installation* and that the *metering installation* is registered with *AEMO*; and

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

(c) For an *interconnector*:

(1) the relevant *Transmission Network Service Provider* is responsible for the provision, installation and maintenance of a *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.*

7.2.2  [Not used]

7.2.3  **Agreements with Local Network Service Provider**

For the purpose of section 140(2)(b) of the *National Energy Retail Law*, an agreement in force under the following clauses of the *Rules* is taken to be an agreement in force under 'rule 7.2.3':

(a) clause 7.6.3;

(b) clause 7.6.4; and

(c) clause 11.86.7.

7.2.4  [Not used]

7.2.5  **Agreements with Metering Provider**

For the purpose of section 140(2)(c) of the *National Energy Retail Law*, an agreement in force under clause 7.3.2(b) of the *Rules* is taken to be an agreement in force under 'rule 7.2.5'.

7.3  **Role and Responsibility of Metering Coordinator**

7.3.1  **Responsibility of the Metering Coordinator**

(a) For the term of its appointment in respect of a *connection point*, the *Metering Coordinator* is the person responsible for the:
(1) provision, installation and maintenance of a metering installation in accordance with Part D of this Chapter 7;

(2) except as otherwise specified in clause 7.5.1(a), collection of metering data with respect to the metering installation, the processing of that data, retention of metering data in the metering data services database and the delivery of the metering data to the metering database and to other persons in accordance with Part E of this Chapter 7; and

(3) managing access to and the security of the metering installation, services provided by the metering installation, energy data held in the metering installation and metering data from the metering installation in accordance with Part F of this Chapter 7.

(b) The Metering Coordinator 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 Metering Coordinator consistent with this Chapter 7.

### 7.3.2 Role of the Metering Coordinator

#### Appointment of a Metering Provider

(a) The Metering Coordinator at a connection point (other than a connection point with a type 7 metering installation) must:

(1) appoint a Metering Provider or Metering Providers for the provision, installation and maintenance of the metering installation; or

(2) subject to the metrology procedure, appoint a Metering Provider or Metering Providers for the provision and maintenance of that installation and allow another person to appoint a Metering Provider to install 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.)

(b) The Metering Coordinator at a connection point (other than a connection point with a type 7 metering installation) must:

(1) appoint a Metering Provider or Metering Providers:

   (i) for the provision, installation and maintenance of the metering installation, where the Metering Coordinator has appointed the Metering Provider under paragraph (a)(1); or

   (ii) for the provision and maintenance of the metering installation, where another person has appointed the Metering Provider under paragraph (a)(2).
(c) The Metering Coordinator may elect to terminate an appointment made under paragraph (b)(1)(i) after the metering installation is installed and, if such an appointment is terminated, the Metering Coordinator must appoint another Metering Provider for the maintenance of the metering installation.

Appointment of a Metering Data Provider

(d) Except as otherwise specified in clause 7.5.1(a), the Metering Coordinator at a connection point must:

(1) appoint a Metering Data Provider to provide metering data services; and

(2) provide the financially responsible Market Participant with the name of the Metering Data Provider appointed under subparagraph (1).

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.)

Metering installations

(e) The Metering Coordinator at a connection point (other than a connection point with a type 7 metering installation) must:

(1) ensure that the metering installation is provided, installed and maintained in accordance with the Rules and procedures authorised under the Rules;

(2) ensure that the components, accuracy and testing of the metering installation complies with the requirements of the Rules and procedures authorised under the Rules;

(3) ensure that the security control of the metering installation is provided in accordance with rule 7.15;

(4) where remote acquisition is used or is to be used, ensure that a communications interface is installed and maintained to facilitate connection to the telecommunications network;

(5) ensure that AEMO is provided (when requested) with the information specified in Schedule 7.1 for any new or replacement metering installation or any altered metering installation; and

(6) ensure that no device that is capable of producing interval energy data and is already installed in a metering installation is replaced with a device that only produces accumulated energy data unless the metrology procedure permits the replacement to take place.
(f) The Metering Coordinator at a connection point with a small customer metering installation must ensure that energy data is retrieved from that small customer metering installation via remote access.

(g) A Metering Coordinator must not prevent, hinder or otherwise impede a Local Network Service Provider from locally accessing a metering installation or connection point for the purposes of reconnecting or disconnecting the connection point.

(h) Except as specified in clause 7.5.1(a), the Metering Coordinator at a connection point must:

1. ensure that the Metering Data Provider appointed under paragraph (d) accommodates any special site or technology related conditions determined by AEMO in accordance with clause 7.8.12(c), and the Metering Coordinator must 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. for any type 5 metering installation where the annual flow of electricity through the connection point is greater than the type 5 accumulation boundary, ensure that interval energy data is collected;

4. for any type 4A metering installation, ensure that interval energy data is collected; and

5. arrange for the provision of relevant metering data to the Metering Data Provider if remote acquisition, if any, becomes unavailable.
Access to small customer metering installation

(i) The Metering Coordinator at a connection point with a small customer metering installation must:

(1) ensure that access to the metering installation, the services provided by the metering installation and energy data held in the metering installation is only granted to persons entitled to access that metering installation, or the services provided by the metering installation or energy data held in the metering installation in accordance with this Chapter 7;

(2) not arrange a disconnection except:

(i) on the request of the financially responsible Market Participant, Local Network Service Provider or, Exempt Embedded Network Service Provider in relation to a child connection point on its network;

(ii) where such disconnection is effected via remote access;

(iii) in accordance with jurisdictional electricity legislation; and

(iv) if applicable, in accordance with the emergency priority procedures;

(3) not arrange a reconnection except:

(i) on the request of the financially responsible Market Participant, Local Network Service Provider, Incoming Retailer or, Exempt Embedded Network Service Provider in relation to a child connection point on its network;

(ii) where such reconnection is effected via remote access;

(iii) in accordance with jurisdictional electricity legislation; and

(iv) if applicable, in accordance with the emergency priority procedures; and

(4) not arrange a retailer planned interruption of the supply of electricity at the metering installation except:

(i) on the request of the retailer;

(ii) in accordance with jurisdictional electricity legislation; and

(iii) if applicable, in accordance with the emergency priority 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.)
7.4 Qualification and Registration of Metering Providers, Metering Data Providers and Embedded Network Managers

7.4.1 Qualifications and registration of Metering Providers

(a) [Not used]

(a1) A Metering Provider is a person who:

(1) meets the requirements set out in Schedule 7.2; and

(2) is accredited by and registered by AEMO in that capacity in accordance with the qualification process established under clause S7.2.1(b).

(b) Any person may apply to AEMO for accreditation and registration as a Metering Provider.

(c) 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 S7.2.1(b). The requirements must include a dispute resolution process.

(d) 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.

(e) A Market Generator 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.

(f) Except as otherwise specified in paragraph (g), a Market Customer must not be registered as a Metering Provider at any connection point.

(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 Provider for that connection point notwithstanding paragraph (f), 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.

7.4.2 Qualifications and registration of Metering Data Providers

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

(1) meets the requirements set out in Schedule 7.3; and

(2) is accredited by and registered by AEMO in that capacity in accordance with the qualification process established under clause S7.3.1(c).

(b) Any person may apply to AEMO for accreditation and registration as a Metering Data Provider.

(c) [Not used]

(c1) 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 S7.3.1(c). The requirements must include a dispute resolution process.

(d) 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.

(e) A Market Generator 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.

(f) Except as otherwise specified in paragraph (g), a Market Customer must not be registered as a Metering Data Provider at any connection point.

(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 notwithstanding paragraph (f).

### 7.4.2A Qualifications and registration of Embedded Network Managers

(a) An Embedded Network Manager must:

(1) meet the requirements set out in schedule 7.7; and

(2) be accredited and registered by AEMO in that capacity in accordance with the qualification process established under clause S7.7.1(b).

(b) Any person may apply to AEMO for accreditation and registration as an Embedded Network Manager.

(c) AEMO must include requirements for accreditation and registration of Embedded Network Managers in the ENM service level procedures. The adoption of the requirements by Embedded Network Managers is to be included in the qualification process in accordance with clause S7.7.1(b). The requirements must include a dispute resolution process.

(d) AEMO must develop and publish guidelines to assist persons wishing to be accredited and registered by AEMO as an Embedded Network Manager with the preparation of their applications to AEMO.

(e) An Embedded Network Manager must comply with the provisions of the Rules and procedures authorised under the Rules that are expressed to apply to Embedded Network Managers.

### 7.4.2B List of Embedded Network Managers

AEMO must publish and maintain a list of persons accredited and registered as Embedded Network Managers.

### 7.4.3 Nature of appointment of Metering Provider or Metering Data Provider

(a) A Metering Provider or Metering Data Provider must perform all of the obligations of a Metering Provider or Metering Data Provider (as the case may be) in respect of a metering installation under the Rules and procedures
authorised under the *Rules* on terms and conditions (including as to price) to be commercially agreed between the *Metering Provider* or *Metering Data Provider* and the appointing *Metering Coordinator*.

(b) Subject to the terms of appointment by the *Metering Coordinator* and in accordance with the *Rules* and procedures authorised under the *Rules*:

(1) a *Metering Provider* appointed under clause 7.3.2(b); and

(2) a *Metering Data Provider* appointed under clause 7.3.2(d).

may supply services in respect of the *metering installation* in addition to those provided under paragraph (a), including access to the services provided by the *metering installation* and *metering data* from the *metering installation*, on terms and conditions (including as to price) to be commercially agreed between the *Metering Provider* or *Metering Data Provider* (as the case may be) and the requesting party.

### 7.4.4 Deregistration of Metering Providers, Metering Data Providers and Embedded Network Managers

(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 (b).

(a1) *AEMO* must establish, maintain and *publish* a procedure for deregistration of *Embedded Network Managers*. This procedure must include a process for:

(1) voluntary deregistration by *Embedded Network Managers*; and

(2) determining a breach of the provisions of the *Rules* or of the procedures under the *Rules* by *AEMO*, which process incorporates the principles specified in paragraph (b).

(a2) *AEMO* must deregister an *Embedded Network Manager* if the *Embedded Network Manager* requests deregistration and the request is made in accordance with the procedures developed by *AEMO* under paragraph (a1)(1).

(b) A breach of the provisions of the *Rules* or of the procedures authorised 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 deregistration of a *Metering Provider*, *Metering Data Provider* or an *Embedded Network Manager* can only occur if it can be demonstrated that the person has committed 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.

(c) If *AEMO* reasonably determines that a *Metering Provider*, *Metering Data Provider* or an *Embedded Network Manager* has breached a provision of the *Rules* or of procedures authorised under the *Rules* that applies to *Metering Providers*, *Metering Data Providers* or *Embedded Network Managers*: 

---

Page 1005
(1) AEMO must send to that Metering Provider, Metering Data Provider or Embedded Network Manager a notice in writing setting out the nature of the breach; and

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

(d) AEMO may, following a review conducted under subparagraph (c)(2) and in accordance with the procedure under paragraph (a), deregister the Metering Provider, Metering Data Provider or Embedded Network Manager, suspend the person from some categories of registration or allow the person to continue to operate under constraints agreed with AEMO.

(e) If following a review under subparagraph (c)(2), AEMO deregisters or suspends from some categories of registration or allows the Metering Provider, Metering Data Provider or Embedded Network Manager to continue to operate under constraints, then AEMO must inform:

(1) the relevant Metering Coordinator(s) and the relevant financially responsible Market Participants; and
(2) in the case of an embedded network manager only, the Exempt Embedded Network Service Provider,

of the outcome of that review.

7.5 Role and Responsibility of AEMO

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

(a) Where the Metering Coordinator at a connection point or proposed connection point on a transmission network is the Local Network Service Provider, AEMO is responsible for:

(1) the collection of metering data with respect to the metering installation, the processing of that data, the delivery of the processed data to the metering database and the provision of metering data in accordance with the Rules and procedures authorised under the Rules; and

(2) the appointment of the Metering Data Provider to provide the metering data services in accordance with paragraph (b).

(b) In performing its role under paragraph (a), AEMO must:

(1) subject to the limitation on that choice imposed by paragraph (d), permit the financially responsible Market Participant to appoint a Metering Data Provider of its choice to perform the obligations of a Metering Data Provider with respect to the metering installation under this Chapter 7;
(2) where a financially responsible Market Participant has not appointed a Metering Data Provider in accordance with subparagraph (1), appoint a Metering Data Provider to perform the obligations of a Metering Data Provider with respect to the metering installation under this Chapter 7; and

(3) comply with the processes for the collection, processing and delivery of metering data from the metering installation to the metering database and the provision of metering data to the persons who may receive metering data under clause 7.10.3(a) in accordance with the procedures authorised under the Rules, and may establish additional processes if necessary in order to fulfil that role.

(c) If any additional processes are established by AEMO for the purpose of fulfilling its obligations under subparagraph (b)(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.

(d) Where a financially responsible Market Participant chooses to appoint a Metering Data Provider under subparagraph (b)(1), it must:

(1) only appoint a Metering Data Provider who can fully accommodate any special site or technology related conditions described in the document published under clause 7.8.12(c)(1); 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) clarify any matters with AEMO in order to choose a Metering Data Provider for that metering installation that is mutually suitable to all parties.

7.5.2 AEMO’s costs in connection with metering installation

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.

7.5A Role and Responsibility of Embedded Network Managers

7.5A.1 Responsibility of Embedded Network Managers for management services

The provision of embedded network management services must be carried out only by an Embedded Network Manager.
7.5A.2 EN information

An Embedded Network Manager must:

(a) maintain information about the types and configuration of metering installations at the parent connection point and all child connection points on the Embedded Network Manager’s embedded network and about the subtractive or other arrangements used in respect of those metering installations relevant to settlements; and

(b) in accordance with the B2B Procedures, make that information available on request to:

(1) the financially responsible Market Participant for any child connection point on the embedded network or that Market Participant’s Metering Coordinator;

(2) any Incoming Retailer or its Metering Coordinator; or

(3) the Exempt Embedded Network Service Provider of the relevant embedded network.

Note

Schedule 4 of the National Electricity Amendment (Expanding Competition in metering and related services) Rule 2015 No.12 inserts a definition for Incoming Retailer.

Part C Appointment of Metering Coordinator

7.6 Appointment of Metering Coordinator

7.6.1 Commercial nature of the Metering Coordinator appointment and service provision

(a) A Metering Coordinator assumes responsibility in respect of a connection point under this Chapter 7, and must perform all of the obligations of the Metering Coordinator under the Rules and procedures authorised under the Rules on terms and conditions (including as to price) to be commercially agreed between the Metering Coordinator and the person who appoints the Metering Coordinator under clause 7.6.2.

(b) Subject to the terms of its appointment under clause 7.6.2 and in accordance with the Rules and procedures authorised under the Rules, a Metering Coordinator may supply services in respect of the metering installation in addition to those provided under paragraph (a), including access to the services provided by the metering installation and metering data from the metering installation, on terms and conditions (including as to price) to be commercially agreed between the Metering Coordinator and the requesting party.
7.6.2 Persons who may appoint Metering Coordinators

(a) A Metering Coordinator may only be appointed:

(1) with respect to a connection point or proposed connection point on a transmission network, by the Market Participant which is financially responsible at the connection point;

(2) with respect to a connection point (other than the connection point of a retail customer) that connects, or is proposed to connect, a generating system to a distribution network, by:

(i) the Market Participant which is financially responsible at the connection point;

(ii) a Non-Market Generator who owns, controls or operates the generating system that is connected to the distribution network at the connection point; or

(iii) a person who owns, controls or operates the generating system that is connected to the distribution network at the connection point and is exempt from the requirement to register as a Generator under clause 2.2.1(c); and

(3) with respect to any other connection point, by:

(i) the Market Participant which is financially responsible at the connection point; or

(ii) the large customer whose premises are supplied at the connection point.

(b) A person making an appointment under paragraph (a) must do so in accordance with the Rules and procedures authorised under the Rules.

(c) The Market Settlement and Transfer Solution Procedures must specify that a Metering Coordinator at a connection point is responsible for the metering installation:

(1) where the change in the Metering Coordinator at a connection point is effected due to a change in the financially responsible Market Participant at that connection point, on the day that the market load at the connection point transfers to the new financially responsible Market Participant; and

(2) otherwise, on any other day.

7.6.3 Appointment with respect to transmission network connection

(a) Where a connection point or proposed connection point is on a transmission network, only the Local Network Service Provider or the financially responsible Market Participant at the connection point may be appointed as Metering Coordinator under clause 7.6.2

(b) Where a connection point or proposed connection point is on a transmission network, the financially responsible Market Participant at the connection
point may request in writing an offer from the Local Network Service Provider to act as the Metering Coordinator in respect of the connection point.

(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 Metering Coordinator in respect of that connection point;

(2) provide the financially responsible Market Participant with the name of the Metering Provider and the Metering Data Provider that would be appointed under clause 7.3.2(a)(1) and 7.3.2(d), if requested by the financially responsible Market Participant; and

(3) provide the financially responsible Market Participant with the terms and conditions (including as to price) relating to that offer no later than 15 business days after the Local Network Service Provider receives a written request from the financially responsible 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.)

7.6.4 Type 7 metering installations

(a) The financially responsible Market Participant must appoint the Local Network Service Provider as the Metering Coordinator in respect of a connection point which has a type 7 metering installation connected to, or proposed to be connected to, the Local Network Service Provider’s network.

(b) The Local Network Service Provider may provide the financially responsible Market Participant with a standard set of terms and conditions on which it will agree to act as the Metering Coordinator for a type 7 metering installation.

(c) Where the Local Network Service Provider has not provided the financially responsible Market Participant with a standard set of terms and conditions referred to in paragraph (b), the financially responsible Market Participant must request an offer from the Local Network Service Provider to act as the Metering Coordinator pursuant to paragraph (a).

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 Local Network Service Provider must, within 15 business days of receipt of the request under paragraph (c), make an offer to the financially responsible Market Participant setting out the terms and conditions on which it will agree to act as the Metering Coordinator.

(e) The terms and conditions of an offer made under paragraph (b) or (d) must:

(1) be fair and reasonable; and
(2) not have the effect of unreasonably discriminating between financially responsible Market Participants, or between customers of a financially responsible Market Participant.

(f) A financially responsible Market Participant must accept an offer on the standard terms and conditions of appointment provided by the Local Network Service Provider under paragraph (b) or (d), unless the financially responsible Market Participant and Local Network Service Provider agree other terms and conditions to apply to the appointment of the Local Network Service Provider as the Metering Coordinator under paragraph (a).

(g) For the avoidance of doubt, any Metering Coordinator appointed under paragraph (a) must comply with Chapter 2 of the Rules, including the requirement that a Metering Coordinator be registered with AEMO as a Metering Coordinator under clause 2.4A.1(a).

7.7 Metering Coordinator default arrangements

7.7.1 Obligations of financially responsible Market Participants on Metering Coordinator default event and end of contract term

(a) Without limiting the obligations of a financially responsible Market Participant under clause 7.2.1(a), the financially responsible Market Participant must appoint a new Metering Coordinator in respect of a connection point in circumstances where:

(1) a Metering Coordinator default event occurs with respect to the existing Metering Coordinator for the connection point; or

(2) the appointment of the existing Metering Coordinator by a person in accordance with clauses 7.6.2(a)(2)(ii), (2)(iii) or (3)(ii) (the relevant person) is terminated or expires and the relevant person does not appoint a new Metering Coordinator within the period specified by AEMO in procedures authorised under the Rules.

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 financially responsible Market Participant must appoint the Metering Coordinator in accordance with paragraph (a) as soon as practicable after the Metering Coordinator default event occurs or the period referred to in subparagraph (a)(2) has elapsed (as the case may be).

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) If:

(1) the financially responsible Market Participant is required to appoint a new Metering Coordinator in respect of a connection point for a relevant person in accordance with paragraph (a); and
(2) the existing contract between the financially responsible Market Participant and the relevant person does not deal with the appointment of a Metering Coordinator in these circumstances,

the terms and conditions of the contract between the financially responsible Market Participant and the relevant person relating to the appointment of the Metering Coordinator (including as to price) must be fair and reasonable.

(d) The appointment of the Metering Coordinator in accordance with clause 7.6.2(a) must include terms to the effect that the appointment of the Metering Coordinator will terminate on the appointment of a new Metering Coordinator following the occurrence of a Metering Coordinator default event in respect of the Metering Coordinator.

### 7.7.2 Notices to be provided by Metering Coordinator

A Metering Coordinator must without delay notify:

(a) the financially responsible Market Participant and relevant person (as defined in clause 7.7.1(a)(2)) who has appointed it in accordance with clause 7.6.2 in respect of a connection point; and

(b) AEMO,

of:

(c) the occurrence of a Metering Coordinator default event in relation to the Metering Coordinator; or

(d) the termination or expiry of the contract under which the Metering Coordinator has been appointed by a relevant person.

### 7.7.3 AEMO may issue breach notice

(a) AEMO must establish, maintain and publish a procedure for the issue of a Metering Coordinator default notice in respect of Metering Coordinators which incorporates the principles specified in paragraph (b).

(b) A breach of the provisions of the Rules or of the procedures authorised 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 issue of a Metering Coordinator default notice can only occur if it can be demonstrated that the Metering Coordinator has committed 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.

(c) If AEMO reasonably determines that a Metering Coordinator has breached a provision (or provisions) of the Rules or of procedures authorised under the Rules that applies to Metering Coordinators then:

(1) AEMO must send to that Metering Coordinator a notice in writing setting out the nature of the breach;
(2) AEMO must, if the Metering Coordinator remains in breach for a period of more than 7 days after notice in accordance with subparagraph (c)(1), conduct a review to assess the Metering Coordinator's capability for ongoing compliance with the Rules or procedures authorised under the Rules; and

(3) AEMO may, following a review conducted under subparagraph (c)(2), issue a notice to the Metering Coordinator which must identify the continuing breach and state that the notice is a notice for the purpose of paragraph (d) of the definition of a Metering Coordinator default event.

(d) If AEMO has issued a notice under subparagraph (c)(3), it must promptly issue a notice to the financially responsible Market Participant and relevant person for each connection point for which the Metering Coordinator in respect of whom the Metering Coordinator default event occurred is appointed by the financially responsible Market Participant or relevant person. Such notice must:

(1) state that a Metering Coordinator default event under paragraph (d) of the definition of Metering Coordinator default event has occurred; and

(2) specify the Metering Coordinator in respect of whom the Metering Coordinator default event occurred.

Part D Metering installation

7.8 Metering installation arrangements

7.8.1 Metering installation requirements

(a) The Metering Coordinator at a connection point must ensure that there is a metering installation at that connection 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) The Metering Coordinator at a connection point must ensure that energy data held in the metering installation is based on units of watthour (active energy) and where required varhour (reactive energy).

(c) Installation and maintenance of a metering installation must be carried out only by a Metering Provider appointed under clause 7.3.2(a).

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.)
7.8.2 Metering installation components

(a) A Metering Provider must, in accordance with the Rules and procedures authorised under the Rules, ensure that a metering installation (other than a type 7 metering installation):

(1) contains a device that has either a visible or an equivalently accessible display of the cumulative total energy measured by that metering installation (at a minimum);

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) is accurate in accordance with clause 7.8.8;

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.)

(3) in the case of metering installations types 1, 2, 3, or 4, has electronic data transfer facilities from the metering installation to the metering data services 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.)

(4) includes a communications interface to meet the requirements of clause 7.3.2(e)(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) is secure in accordance with rule 7.15;

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) records energy data in a manner that enables metering data to be collated in accordance with clause 7.10.5;

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.)

(7) is capable of separately recording energy data for energy flows in each direction where bi-directional active energy flows occur or could 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) has a measurement element for active energy and if required in accordance with Schedule 7.4 a measurement element for reactive energy, with both measurements to be recorded;

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) includes 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;

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) includes 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 4A or type 5 metering installation; 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.)

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

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 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) communications interface equipment such as a modem, isolation requirements, telephone service, radio transmitter and data link equipment;

(5) auxiliary electricity supply to the meter;
(6) an alarm circuit and monitoring facility;

(7) a facility to keep the metering installation secure from interference;

(8) test links and fusing;

(9) summation equipment; and

(10) several metering points to derive the metering data for a connection point.

(c) Subject to paragraph (ea), the financially responsible Market Participant at a connection point must:

(1) apply to the Local Network Service Provider for a NMI; and

(2) provide the Metering Coordinator with the NMI for the metering installation within 5 business days of receiving the NMI from the Local Network Service Provider.

(d) The Local Network Service Provider must:

(1) issue a unique NMI for each metering installation on its network to the financially responsible Market Participant; 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) 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.)

(e) The Metering Coordinator must ensure that AEMO is provided with the relevant details of the metering installation as specified in Schedule 7.1 within 10 business days of receiving the NMI under subparagraph (c)(2).

(ea) An Embedded Network Manager at a child connection point on an embedded network for which it is the Embedded Network Manager must:

(1) apply to AEMO for a NMI for a metering installation at a child connection point;

(2) provide the Metering Coordinator, financially responsible Market Participant and the Exempt Embedded Network Service Provider with the NMI for the metering installation within 5 business days of receiving the NMI from AEMO; and

(3) 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.)

(eb) The obligation in paragraph (ea) does not apply to the extent a metering installation at a child connection point already has a NMI.

(ec) AEMO must issue for each metering installation at a child connection point a unique NMI to the Embedded Network Manager.

Requirements for metering installations for non-market generating units

(f) In addition to the requirements in paragraphs (a) to (e), the Metering Coordinator at a connection point for a non-market generating unit must ensure that the metering installation:

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

(2) where a current transformer, a voltage transformer or a measurement element for reactive energy is installed, meets the requirements in Schedule 7.4 for the type of metering installation appropriate to that connection point;

(3) for units with a nameplate rating greater than 1 MW, meets:
   (i) the accuracy requirements specified in Schedule 7.4; and
   (ii) the measurement requirements in subparagraph (a)(8);

(4) in relation to new accumulation metering equipment for units with a nameplate rating equal to or less than 1 MW, meets the minimum standards for active energy class 1.0 watt hour or 2.0 watt hour meters in accordance with clause S7.4.6.1(f);

(5) for units with a nameplate rating of equal to or less than 1 MW that are capable of recording interval energy, meets the minimum standards of accuracy for the active energy meter in accordance with Schedule 7.4 for a type 3 or 4 metering installation which is based on projected sent out annual energy volumes; and

(6) 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, has the active energy and reactive energy measured where the unit has a nameplate rating of less than 1 MW.

Requirements for metering installations for a small generating unit classified as a market generating unit

(g) In addition to the requirements for metering installations for non-market generating units in paragraph (f), the Metering Coordinator for a small generating unit classified as a market generating unit must ensure that a metering installation:
(1) is classified as a type 1, 2, 3 or 4 metering installation; and
(2) is capable of recording interval energy data relevant to settlements.

7.8.3 Small customer metering installations

(a) Except as specified in clause 7.8.4, a Metering Coordinator must ensure that any new or replacement metering installation in respect of the connection point of a small customer is a type 4 metering installation that meets the minimum services specification.

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 must establish, maintain and publish procedures relating to the minimum services specification that set out for each service specified in the minimum service specification:

  (1) minimum service levels, including service availability and completion timeframes; and
  (2) minimum standards, including completion rates against the service levels and accuracy requirements.

(c) The procedures established under paragraph (b) may also include technical requirements of one or more of the services specified in the minimum services specification.

7.8.4 Type 4A metering installation

No existing telecommunications network

(a) AEMO may exempt a Metering Coordinator from complying with clause 7.8.3(a) in respect of a connection point for a period of up to 5 years if the Metering Coordinator demonstrates to AEMO's reasonable satisfaction that there is no existing telecommunications network which enables remote access to the metering installation at that connection point.

(b) Where the Metering Coordinator is exempt under paragraph (a) from complying with clause 7.8.3(a) in respect of a connection point, the Metering Coordinator must ensure that any new or replacement metering installation in respect of that connection point including, for the avoidance of doubt, a metering installation at a new connection, is a type 4A metering installation that has the capability, if remote access is activated, of providing the services in table S7.5.1.1.

(c) Subject to the reapplication of paragraph (a), on and from the date that an exemption under paragraph (a) ceases to apply in respect of a connection point, the Metering Coordinator must ensure that the metering installation at that connection point is a type 4 metering installation that meets the minimum services specification.
Small customer refusal

(d) A Metering Coordinator is not required to comply with clause 7.8.3(a), or to ensure that the remote access capabilities of an installed type 4 metering installation remain active, where:

(1) in the Metering Coordinator's reasonable opinion, the small customer has communicated its refusal to the proposed installation of a type 4 metering installation, or to the continued use of an installed type 4 metering installation, at a connection point in accordance with paragraph (e); and

(2) the financially responsible Market Participant has notified the Metering Coordinator that the financially responsible Market Participant has provided the following information to the small customer, and provided a copy of that information to the Metering Coordinator:

(i) information on the similarities and differences between a type 4 metering installation and a type 4A metering installation; and

(ii) information on the upfront charges and indicative ongoing charges associated with a type 4A metering installation that will be payable by the small customer in the circumstances described, as applicable, in paragraph (h)(1) or (h1)(1); and

(3) the Metering Coordinator accepts the small customer refusal.

(e) For the purposes of paragraph (d) a small customer refusal to the proposed installation of a type 4 metering installation, or to the continued use of an installed type 4 metering installation, must be communicated:

(1) verbally, in writing or by conduct; and

(2) to the financially responsible Market Participant, Metering Coordinator or Metering Provider.

(f) If the small customer communicates its refusal under paragraph (e) to the financially responsible Market Participant or Metering Provider, the financially responsible Market Participant or Metering Provider (as the case may be) must promptly provide written notice of the refusal to the Metering Coordinator which must include:

(1) the date of the refusal;

(2) how the refusal was communicated; and

(3) details of the NMI at the relevant connection 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.)

(g) If a Metering Coordinator accepts a small customer refusal under paragraph (d), the Metering Coordinator must keep the following records for at least 2 years:
(1) a written record of the refusal; and
(2) the notice and information provided by the financially responsible Market Participant in relation to that small customer under paragraph (d)(2).

(h) Where the conditions in paragraph (d) have been met for new metering installations, or for the replacement of metering installations other than where paragraph (h1) applies:

(1) the Metering Coordinator must ensure that the new or replacement metering installation installed at that connection point is a type 4A metering installation; and

(2) clause 7.8.3(a) will apply to any subsequent installation of a new or replacement metering installation at that connection point, subject to the reapplication of paragraph (d).

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.)

(h1) Where the conditions in paragraph (d) have been met in respect of the continued use of an installed type 4 metering installation:

(1) the Metering Coordinator must ensure that the installed type 4 metering installation at that connection point is replaced with a type 4A metering installation, which may be done by deactivating the remote access capabilities of the installed type 4 metering installation; and

(2) clause 7.8.3(a) will apply to any subsequent installation of a new or replacement metering installation at that connection point, subject to the reapplication of paragraph (d).

(i) Nothing in paragraphs (h) or (h1) prevents a Metering Coordinator from, at any time, activating or reactivating the remote access capabilities of a metering installation with the consent of the small customer at the connection point.

7.8.5 Emergency management

(a) The Metering Coordinator at a connection point must ensure that access to the metering installation, services provided by the metering installation and energy data held in the metering installation are managed in accordance with the emergency priority procedures in the event of an emergency condition as determined in accordance with those emergency priority procedures.

(b) AEMO must establish, maintain and publish procedures that set out:

(1) the criteria for determining when an emergency condition is present and which metering installations will be affected by the emergency condition; and

(2) where a Metering Coordinator supplies services to a Local Network Service Provider from a metering installation that is affected by an
emergency condition, which services the Metering Coordinator must prioritise at the request of the Local Network Service Provider.

(c) A Local Network Service Provider must comply with the emergency priority procedures when issuing any service prioritisation request to a Metering Coordinator under those procedures.

7.8.6 Network devices

LNSP obligations

(a) A Local Network Service Provider:

(1) may install and maintain a network device provided that the installation and maintenance of the network device does not:

(i) adversely impact on the operation of the metering installation, including its compliance with the Rules and procedures authorised under the Rules;

(ii) damage the metering installation; or

(iii) prevent the metering installation being maintained or removed, as required, by or on behalf of the Metering Coordinator;

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) must not remove a metering installation, or any part of a metering installation, in order to install or maintain a network device; 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.)

(3) subject to paragraph (b), must not use a network device to provide services to a retail customer or any other third party.

(b) A Local Network Service Provider may use a network device to:

(1) reconnect or disconnect a metering installation via remote access, as permitted under energy laws; or

(2) provide services to a retail customer but only where those services are incidental to the provision of network services that are reasonably required to enable the Local Network Service Provider to meet its obligations to provide a safe, reliable and secure network.

(c) Information obtained from a network device:

(1) may be accessed by the Local Network Service Provider; and

(2) is confidential and must be treated as confidential information in accordance with the Rules; and
for the purposes of clause 8.6.2(c), is deemed to have been provided by
the retail customer at the relevant connection point.

Metering Coordinator obligations

(d) The Metering Coordinator at a connection point:

(1) must, at the request of the Local Network Service Provider, ensure that
the Local Network Service Provider receives all reasonable assistance
to facilitate access to a metering facility for:

(i) the installation of a network device under paragraph (a)(1); and
(ii) the maintenance of a network device; and

(2) unless paragraph (f) applies, must not, and must ensure that the Metering
Provider does not:

(i) remove the network device;
(ii) take any action that adversely impacts on the operation of the
network device;
(iii) damage the network device; or
(iv) prevent the network device being maintained or removed, as
required, by or on behalf of the Local Network Service Provider,
except with the consent of the Local Network Service 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.)

(e) All reasonable costs incurred by the Metering Coordinator as a consequence
of providing assistance to the Local Network Service Provider under
paragraph (d)(1) must be borne by the Local Network Service Provider.

(f) The Metering Coordinator may remove or arrange the removal of a network
device from the metering facility, without the consent of the Local Network
Service Provider, if:

(1) the Metering Coordinator proposes to install a new or replacement
metering installation at a connection point;

(2) there is a network device in the metering facility at the connection point;
and

(3) in the Metering Coordinator's or Metering Provider's reasonable
opinion, the metering installation cannot be installed in the metering
facility in a manner that allows it to:

(i) operate effectively and in compliance with the Rules and
procedures authorised under the Rules; and
(ii) be maintained or removed, as required, by or on behalf of the
Metering Coordinator,
without removing or impacting on the network device as specified in paragraphs (d)(2)(i) to (iv); and

(4) it has complied with paragraph (g) and any applicable jurisdictional electricity legislation.

(g) If a Metering Coordinator removes or arranges the removal of an existing network device under paragraph (f) it must:

(1) notify the Local Network Service Provider of its removal as soon as practicable after it is removed; and

(2) keep a record in accordance with paragraph (h) of the basis upon which the determination under paragraph (f)(3) was 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.)

(h) A record kept for the purposes of subparagraph (g) must include, in respect of each network device:

(1) the address from which the network device was removed;

(2) the date and time of removal of the network device;

(3) photographs and measurements of the network device, the metering installation and the metering facility; and

(4) any other material in relation to the determination in accordance with paragraph (f)(3) that is required by the procedures made under paragraph (i).

Network device procedures

(i) AEMO must develop and maintain procedures that apply to:

(1) Metering Coordinators and Local Network Service Providers and which specify when an existing metering installation that is to be replaced by a Metering Coordinator may be a network device for the purpose of this clause 7.8.6;

(2) Metering Coordinators and Local Network Service Providers when installing or removing network devices, including the return of a network device to the Local Network Service Provider; and

(3) notifications to be given in respect of activities which affect network devices or metering installations, including the provision of records maintained under paragraph (g)(2) when requested by the Local Network Service Provider.

Clause does not apply to transmission network connection points

(j) This clause 7.8.6 does not apply in respect of transmission network connection points.
Definitions

(k) In this clause 7.8.6, **metering facility** means the existing facility used to house the **metering installation**.

7.8.7 Metering point

(a) The *Metering Coordinator* must ensure that:

(1) the *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 *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 *financially responsible Market Participant*, the *Local Network Service Provider* or, in the case of a *child connection point*, the *Embedded Network Manager*, 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 7.4.

7.8.8 Metering installation types and accuracy

(a) The type of *metering installation* and the accuracy requirements for a *metering installation* are to be determined in accordance with Schedule 7.4.

(b) A *check metering installation* is not required to have the degree of accuracy required of a *metering installation* but the *Metering Coordinator* must ensure that it has mathematical correlation with the *metering installation* and be consistent with the requirements of Schedule 7.4.

(c) The *Metering Coordinator* at a *connection point* must ensure that the accuracy of a type 6 *metering installation* is 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.)
7.8.9  Meter churn

(a) Any alteration or replacement of a metering installation under this Chapter 7 must be managed in accordance with the meter churn procedures.

(b) A Metering Coordinator may arrange to alter a type 5 or 6 metering installation in accordance with paragraph (a) to make it capable of remote acquisition where:

(1) the alteration of the metering installation is reasonably required to address operational difficulties as defined in paragraph (d); or

(2) the Metering Coordinator is the Local Network Service Provider and the alteration of the metering installation is reasonably required to enable the Local Network Service Provider to meet its obligations to provide a safe, reliable and secure network.

(c) An alteration of a metering installation by a Metering Coordinator in accordance with paragraph (b) does not alter the classification of that installation to a type 4 or 4A metering installation.

(d) For the purposes of subparagraph (b)(1), operational difficulties arise where the metering installation is difficult or unsafe to access because:

(1) the metering installation is on a remote property;

(2) the metering installation is within a secure facility;

(3) the metering installation is in close proximity to hazardous materials; or

(4) accessing or arranging access to the metering installation otherwise poses a risk to the safety and security of persons or property.

(e) The Market Settlement and Transfer Solution Procedures must include provisions that enable:

(1) an Incoming Retailer to nominate a Metering Coordinator, Metering Provider or Metering Data Provider to be appointed at a connection point in respect of which it is the Incoming Retailer, and for those appointments to be recorded as being effective on or, where requested by an Incoming Retailer, after the day that the market load at the connection point transfers to the Incoming Retailer as the new financially responsible Market Participant; and

(2) the installation of a new or replacement metering installation at a connection point as soon as practicable after the transfer of a market load at that connection point has been effected by AEMO.

(f) AEMO must establish, maintain and publish procedures for the Metering Coordinator, Metering Provider, Metering Data Provider and financially responsible Market Participant to consider in managing the meter churn resulting from an alteration or replacement of a metering installation under paragraph (a) (the 'meter churn procedures').
7.8.10 Metering installation malfunctions

(a) Unless an exemption is obtained by the Metering Coordinator from AEMO under this clause 7.8.10, the Metering Coordinator must, if a metering installation malfunction occurs in respect of a connection point with: a type 1, 2 or 3 metering installation, cause repairs to be made to the metering installation as soon as practicable but no later than 2 business days after the Metering Coordinator has been notified of the metering installation malfunction.

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.)

(aa) Unless an exemption is obtained by the Metering Coordinator from AEMO under this clause 7.8.10, if a metering installation malfunction occurs, the Metering Coordinator must in respect of a connection point with:

(1) a metering installation at a small customer's premises, cause repairs to be made to the metering installation as soon as practicable but no later than 15 business days after the Metering Coordinator has been notified of the metering installation malfunction; or

(2) a metering installation other than the installations referred to in paragraph (a) or subparagraph (aa)(1), cause repairs to be made to the metering installation as soon as practicable but no later than 10 business days after the Metering Coordinator has been notified of the metering installation malfunction.

Note
For the application of this clause 7.8.10(aa) to type 5 or 6 metering installations, where the Local Network Service Provider is the Metering Coordinator, see clause 11.86.7.

(b) AEMO must establish, maintain and publish a procedure applicable to the provision of exemptions for the purpose of paragraphs (a) and (aa).

(c) If an exemption is provided by AEMO under this clause 7.8.10 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) 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 paragraphs (a) and (aa) must notify the Metering Coordinator of the metering installation malfunction within 1 business day.
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.)

7.8.10A Timeframes for meters to be installed – new connection

(a) Subject to paragraph (b), where a new connection is requested at a small customer's premises, the small customer's retailer must arrange a meter to be installed:

(1) by a date agreed with the small customer; or

(2) failing agreement with the small customer, on a date no later than 6 business days from the date the retailer is informed that the connection service (as defined in clause 5A.A.1) is complete.

(b) The timeframe under subparagraph (a)(1) or (a)(2) (as applicable) will not apply where:

(1) the small customer has not entered into an agreement with the retailer for the meter to be installed;

(2) the proposed site for the meter at the small customer's premises is not accessible or safe or ready for the meter to be installed, or the connection service (as defined in clause 5A.A.1) has not been completed;

(3) installing the meter requires interrupting supply to another retail customer; or

(4) the retail customer requesting the meter to be installed has entered into an aggregated electricity consumption agreement with the retailer under subrule 5(2) of the NERR for the relevant premises, and the agreement specifically provides for the timeframe not to apply.

(c) Subject to the reapplication of paragraph (b), on and from the date that an exception under paragraph (b) ceases to apply, the retailer must arrange for the meter to be installed:

(1) by a new date agreed with the small customer; or

(2) failing agreement, on a date no later than 6 business days from the date that the exception ceases to apply.

(d) Any communications required between the retailer and the Distribution Network Service Provider under this clause 7.8.10A must be made promptly through the B2B e-Hub or any other agreed method.

Note
Under the NERR, a retailer must inform its small customers of its obligations under this clause.
7.8.10B Timeframes for meters to be installed – where a connection service is not required

(a) Subject to paragraph (b), if a small customer has requested the retailer to install a meter at the customer's premises and a connection service (as defined in clause 5A.A.1) is not required, the small customer's retailer must arrange for the meter to be installed:

(1) by a date agreed with the small customer; or

(2) failing agreement, on a date no later than 15 business days after the retailer received the request from the small customer for the meter to be installed.

(b) The timeframe under subparagraph (a)(1) or (a)(2) (as applicable) will not apply where:

(1) the small customer has not entered into an agreement with the retailer for the meter to be installed;

(2) the proposed site for the meter at the small customer's premises is not accessible, safe, or ready for the meter to be installed;

(3) installing the meter requires interrupting supply to another retail customer; or

(4) the retail customer requesting the meter to be installed has entered into an aggregated electricity consumption agreement with the retailer under subrule 5(2) of the NERR for the relevant premises, and the agreement specifically provides for the timeframe not to apply.

(c) Subject to the reapplication of paragraph (b), on and from the date that an exception under paragraph (b) ceases to apply, the retailer must arrange for the meter to be installed:

(1) by a new date agreed with the small customer; or

(2) failing agreement, on a date no later than 15 business days from the date that the exception ceases to apply.

(d) For the avoidance of doubt, the timeframes for meters to be installed under this rule 7.8.10B do not apply for a retailer initiated installation of a meter, including for a new meter deployment (as defined in the NERR), or for a new connection.

Note

Under the NERR, a retailer must inform its small customers of its obligations under this clause.

7.8.10C Timeframes for meters to be installed – where a connection alteration is required

(a) Subject to paragraph (b), if a small customer has requested a meter to be installed at the customer's premises, where a connection alteration is also required:
(1) the retailer must arrange for the meter to be installed:

(i) by a date agreed with the small customer, and the Distribution Network Service Provider where the Distribution Network Service Provider is providing the connection alteration; or

(ii) failing agreement, on a date no later than 15 business days after the retailer received the request from the customer for the meter to be installed; and

(2) where a Distribution Network Service Provider is providing the connection alteration, it must co-ordinate the connection alteration, with the retailer and other relevant parties, in order to allow the retailer to comply with its obligation under subparagraph (a)(1).

(b) The timeframe under subparagraph (a)(1)(i) or (a)(1)(ii) (as applicable) will not apply where:

(1) the small customer has not entered into an agreement with the retailer for the meter to be installed;

(2) the proposed site for the meter at the small customer’s premises is not accessible, safe, or ready for the meter to be installed;

(3) installing the meter requires interrupting supply to another retail customer;

(4) the small customer has not met the conditions that it is required to comply with under its connection contract;

(5) the retail customer requesting the meter to be installed has entered into an aggregated electricity consumption agreement with the retailer under subrule 5(2) of the NERR for the relevant premises, and the agreement specifically provides for the timeframe not to apply; or

(6) augmentation is required for the purposes of the connection alteration and has not yet been completed.

(c) Subject to the reapplication of paragraph (b), on and from the date that an exception under paragraph (b) ceases to apply:

(1) the retailer must arrange for the meter to be installed:

(i) by a new date agreed with the small customer, and the Distribution Network Service Provider where the Distribution Network Service Provider is providing the connection alteration; or

(ii) failing agreement, on a date no later than 15 business days from the date that the exception ceases to apply; and

(2) where a Distribution Network Service Provider is providing the connection alteration, it must co-ordinate the connection alteration, with the retailer and other relevant parties, in order to allow the retailer to meet its obligation under subparagraph (c)(1).
(d) If the retailer receives a request from a small customer for a meter to be installed at the customer's premises where a connection alteration is also required, the retailer must inform the Distribution Network Service Provider of the request no later than the next business day after receiving the request.

(e) Any communications required between the retailer and the Distribution Network Service Provider under this clause 7.8.10(C) must be made promptly through the B2B e-Hub or any other agreed method.

(f) For the avoidance of doubt, the timeframes for meters to be installed under this clause 7.8.10C do not apply for a retailer initiated installation of a meter, including for a new meter deployment (as defined in the NERR), or for a new connection.

Note
Under the NERR, a retailer must inform its small customers of its obligations under this clause.

7.8.11 Changes to metering equipment, parameters and settings within a metering installation

The Metering Coordinator at a connection point must ensure that changes to parameters or settings within a metering installation are:

(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 Metering Coordinator 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) reported to AEMO to enable AEMO to record the changes in the metering register.

7.8.12 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 connection point or proposed connection point on a transmission network, 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; or

(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 Metering Coordinators 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 Metering Coordinator or the financially responsible Market Participant in order to enable the Metering Coordinator or financially responsible Market Participant to choose a Metering Data Provider for that metering installation that is mutually suitable to all parties.

(d) The Metering Coordinator or the financially responsible Market Participant at a connection point 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 subparagraph (c)(1).

7.8.13 Joint metering installations

(a) Where more than one Market Participant uses a metering installation at a particular connection point, they must agree and notify AEMO as to which of them will appoint the Metering Coordinator 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.)
In the absence of such agreement, AEMO may nominate one of the Market Participants to appoint the Metering Coordinator for that metering installation.

Where more than one Market Participant is subject to the same special site or technology related conditions as specified in clause 7.8.12(a), the Metering Coordinator must notify AEMO of the Metering Data Provider that will provide the metering data services for the relevant metering installation.

In the absence of a Metering Coordinator notifying AEMO in accordance with paragraph (c), AEMO may nominate a Metering Data Provider to provide the metering data services for the metering installation.

Clause 7.8.13 does not apply to a metering installation at a child connection point.

7.9 Inspection, Testing and Audit of Metering installations

7.9.1 Responsibility for testing

A person who arranges or carries out testing of a metering installation under this clause 7.9.1 must do so in accordance with:

(1) this clause 7.9.1; and

(2) the relevant inspection and testing requirements set out in Schedule 7.6.

A Registered Participant may request that the Metering Coordinator make arrangements for the testing of a metering installation and if the request is reasonable, the Metering Coordinator must:

(1) not refuse the request; and

(2) make arrangements for the testing.

Where the Metering Coordinator does not arrange for the testing requested under paragraph (b), the Metering Coordinator must advise AEMO that the requested testing has not been arranged and AEMO must make the arrangements for the testing where, in AEMO's reasonable opinion, it is practicable for AEMO to do so.

The Registered Participant who requested the tests under paragraph (b) may make a request to the Metering Coordinator to witness the tests.

The Metering Coordinator 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) the financially responsible Market Participant,
(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 Metering Coordinator and AEMO must co-operate for the purpose of making arrangements for AEMO to inspect or test the metering installation where:

(1) the Metering Coordinator must make arrangements for AEMO to have access to the metering installation; and
(2) AEMO must:
   (i) no later than seven business days prior to the testing or inspection, give the Metering Coordinator 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 Metering Coordinator.

(g) Where the Metering Coordinator has arranged testing of, or AEMO has undertaken testing of, a metering installation under this clause 7.9.1 and Schedule 7.6, the Metering Coordinator or AEMO (as the case may be) must:

(1) inform the financially responsible Market Participant that testing has been undertaken in respect of the metering installation in accordance with this clause 7.9.1; and
(2) 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 Metering Coordinator or AEMO (as the case may be) must ensure that the test results are provided as soon as practicable to the persons who receive that metering data under clause 7.10.3(a).

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 the test results referred to in paragraph (g) indicate compliance with the technical requirements for that metering installation, the Metering
Coordinator or AEMO (as the case may be) must ensure that the test results are provided as soon as practicable:

(1) in circumstances where the tests were requested by a Registered Participant, to the Registered Participant and persons receive that metering data under clause 7.10.3(a); or

(2) to a Registered Participant if requested by that Registered Participant, where the tests are not the result of a request for testing.

**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.)

(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 Metering Coordinator must store the test results in accordance with clause 7.9.5 and provide a copy to AEMO upon request or as part of an audit.

(l) The cost of any test under paragraph (b) must be borne by:

(1) if paragraph (h) applies, the Metering Coordinator; and

(2) otherwise, the Registered Participant who requested the test.

### 7.9.2 Actions in event of non-compliance

(a) If the accuracy of the metering installation does not comply with the requirements of the Rules, the Metering Coordinator must:

(1) advise AEMO as soon as practicable of the errors detected and the possible duration of the existence of the errors; and

(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 paragraph (a) and to minimise adjustments to the final settlements account.

### 7.9.3 Audits of information held in metering installations

(a) AEMO is responsible for auditing metering installations.

(b) 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.
(c) If there are inconsistencies between data held in a metering installation and data held in the metering database, the Metering Coordinator and Registered Participants with a financial interest in the metering installation or the energy measured by that metering installation must liaise together to determine the most appropriate way to resolve the discrepancy.

(d) 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.

(e) AEMO must carry out periodic random audits of metering installations to confirm compliance with the Rules.

(e1) The Metering Coordinator must ensure that AEMO has unrestrained access to metering installations for the purpose of carrying out such random audits provided that AEMO agrees to comply with the Metering Coordinator's reasonable security and safety requirements and has first given the Metering Coordinator 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.)

(f) The costs of any audit conducted under paragraph (b) will be borne by:

(1) if paragraph (c) applies, the Metering Coordinator; or

(2) otherwise, the Registered Participant who requested the audit.

7.9.4 Errors found in metering tests, inspections or audits

(a) If a metering installation test, inspection or audit, carried out in accordance with clause 7.9.1, demonstrates errors in excess of those prescribed in Schedule 7.4, the Metering Coordinator must ensure the metering data is substituted in accordance with this clause 7.9.4 and clause 7.10.1 as appropriate.

(b) If AEMO or the Metering Coordinator 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.

(c) The time that the error was deemed to occur, as determined in paragraph (b), is to be used by the Metering Data Provider in performing substitution of the metering data.
(d) 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 7.4, no substitution of readings is required unless in AEMO's reasonable opinion a particular party would be significantly affected if no substitution were made.

(e) If any substitution is required under paragraph (d), AEMO must request the Metering Coordinator 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 7.9.1(j), 7.9.3(b) or 7.9.3(e)), or if no audit report is provided, in accordance with the substitution requirements of the metrology procedure.

7.9.5 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 7.9.5.

(b) The Metering Coordinator 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.
The Metering Coordinator must ensure records of type tests and pattern approvals carried out or obtained in accordance with S7.4.6.1(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.

7.9.6 Metering installation registration process

AEMO must establish, maintain and publish a registration process to facilitate the application of this Chapter 7 to Market Participants, Metering Coordinators and Network Service Providers in respect of:

(a) new metering installations;
(b) modifications to existing metering installations; and
(c) decommissioning of metering installations,
including the provision of information on matters such as application process, timing, relevant parties, fees and metering installation details.

Part E Metering Data

7.10 Metering Data Services

7.10.1 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 local access 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 4A, 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 and providing access to the metering data services database in accordance with clause 7.10.2;
(6) delivery of metering data and relevant NMI Standing Data for a metering installation in accordance with clause 7.10.3;
(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 local access or remote access while being collected and while held in the metering data services database and that data is provided only in accordance with the Rules;
(9) maintaining the standard of accuracy of the time setting of the metering
data services database and the metering installation in accordance with clause 7.10.6;

(10) notifying the Metering Coordinator 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
7.10.2.

(b) Despite anything to the contrary in the Rules, AEMO may obtain energy data
directly from a metering installation for the settlements process.

7.10.2 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; and

(3) if required in procedures authorised by AEMO under this Chapter 7,
provide the persons referred to in clauses 7.15.5(c)(1) to 7.15.5(c)(5a)
with access to the metering data and NMI Standing Data in the metering
data services database; 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.)

(4) except for the persons referred to in clauses 7.15.5(c)(1) to 7.15.5(c)(5a),
ensure that no other person has access to the metering data services
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.)

(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 7.4 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 persons referred to in clauses 7.15.5(c)(1) to 7.15.5(c)(5a).

(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 7.11.2(c).

(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 in accordance with clause 7.10.3.

(i) The **Metering Data Provider's** rules and protocols for supplying the metering data services must be approved by **AEMO** and **AEMO** must not unreasonably withhold such approval.

(j) The **Metering Data Provider** must arrange with the **Metering Coordinator** to obtain the relevant metering data if remote acquisition, if any, becomes unavailable.

### 7.10.3 Provision of metering data to certain persons

(a) The **Metering Data Provider** must provide metering data and relevant NMI Standing Data to the persons referred to in clauses 7.15.5(c)(1) to 7.15.5(c)(5a) as required by and in accordance with the Rules and procedures authorised by **AEMO** under this Chapter 7.

**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** must ensure that the procedures it authorises under this Chapter 7 do not require the **Metering Data Provider** to provide metering data or relevant NMI Standing Data to a person under paragraph (a) except to the extent that such metering data or relevant NMI Standing Data is required by that person to perform its obligations under the Rules, the National Energy Retail Rules or jurisdictional electricity legislation.
7.10.4 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 7.10.1 and 7.11.2(c).

7.10.5 Periodic energy metering

(a) The Metering Data Provider must, for type 1, 2, 3, 4, 4A and 5 metering installations, collate metering data relating to:

(1) the amount of active energy; and
(2) reactive energy (where relevant) passing through a connection point, in trading intervals within a metering data services database unless it has been agreed between AEMO, the Local Network Service Provider, Embedded Network Manager in relation to child connection points and the financially responsible Market Participant that metering data may be recorded in sub-multiples of a trading interval.

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) 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 7.5.2.

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.)
(c) The Metering Data Provider must, for type 7 metering installations, prepare metering data relating to the amount of active energy passing through a connection point in accordance with clause 7.10.1(a)(4) in trading intervals within a metering data services 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.)

7.10.6 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 7.4 relevant to the load through the connection point when installing, testing and maintaining metering installations.

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 must ensure that the metering database clock is maintained within \(-1\) second and \(+1\) second of Eastern Standard Time.

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

(d) 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 7.4 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 7.4 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).

7.10.7 Metering data performance standards

(a) Except as otherwise specified in clause 7.5.1, the Metering Coordinator must ensure that metering data is provided to AEMO for all trading intervals where the metering installation has the capability for remote acquisition of metering data, and that the data is:

(1) derived from a metering installation compliant with clause 7.8.8(a);
provided 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; and

(4) provided 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.)

(b) The performance standards specified in subparagraph (a)(4) must be set at a level that does not impose a material risk on AEMO’s ability to meet its settlements and prudential requirements obligations under the Rules.

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) AEMO may relax or exempt the performance standards specified in subparagraph (a)(4) in circumstances, including those referred to in clause 7.8.9(b), when AEMO and the Metering Coordinator 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 under the Rules.

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 is a type 4A metering installation or does not have the capability for remote acquisition of metering data, the Metering Coordinator must ensure that metering data is provided to AEMO and that the data is:

(1) derived from a metering installation compliant with clause 7.8.8(a);
(2) provided within the timeframe required for settlements specified in the metrology procedure and the relevant service level procedures;
(3) actual, substituted or estimated in accordance with the metrology procedure; and
(4) provided 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 Metering data and database

7.11.1 Metering database

(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) AEMO must ensure that the metering database has the capability for remote access.

(c) The metering database must include metering data, settlements ready data, and information for each metering installation registered with AEMO in accordance with rule 7.12.

(d) AEMO must:
   1. enable the persons referred to in clauses 7.15.5(c)(1) to 7.15.5(c)(5a) and clause 7.15.5(e) to access or receive data in the metering database; and
   2. except as specified in subparagraph (1), ensure that no other person has access to the metering database.

(e) 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.

(f) The settlements ready data held in the metering database must be used by AEMO for settlements purposes.

(g) 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.

(h) AEMO must retain settlements ready data for all metering installations for a period of 7 years.

(i) Despite anything to the contrary in this Rule, AEMO may provide an energy ombudsman with metering data relating to a Registered Participant from a metering installation, the metering database, or the metering register, if the energy ombudsman has received a complaint to which the data is relevant from a retail customer of the Registered Participant.

(j) AEMO must notify the relevant Registered Participant of any information requested by the energy ombudsman under paragraph (i) and, if it is requested by that Registered Participant, supply the Registered Participant with a copy of any information provided to the energy ombudsman.

(k) AEMO must, acting jointly with the energy ombudsman, develop procedures for the efficient management of timely access to data by the energy ombudsman.
7.11.2 Data validation, substitution and estimation

(a) 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.

(b) Where a Metering Data Provider receives notification under paragraph (a), 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.

(c) 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.

7.11.3 Changes to energy data or to metering data

(a) The Metering Coordinator must ensure that energy data held in a metering installation is not 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 Metering Coordinator 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.

(c) If a Metering Coordinator considers alterations are necessary under paragraph (b)(2), the Metering Coordinator 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 Metering Coordinator 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; and
   (ii) provide the altered metering data to the persons who receive that metering data under clause 7.10.3(a).

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

7.12 Register of Metering Information

7.12.1 Metering register
(a) As part of the metering database, AEMO must maintain a metering register of all metering installations and check metering installations which provide metering data used for settlements.

(b) The metering register referred to in paragraph (a) must contain the information specified in Schedule 7.1.

7.12.2 Metering register discrepancy
(a) If the information in the metering register indicates that the 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) The Metering Coordinator must arrange for the discrepancy to be corrected within 2 business days of receipt of notification under paragraph (a) 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.)

7.13 Disclosure of NMI information

7.13.1 Application of this Rule
A retailer is entitled to information under this Rule only if the relevant information is not available to the retailer through the Market Settlement and Transfer Solution Procedures.

7.13.2 NMI and NMI checksum
(a) A Distribution Network Service Provider must, at the request of a retailer, and within 1 business day of the date of the request, provide the retailer with the NMI and NMI checksum for premises identified in the request by reference to:

(1) a unique meter identifier held by the Distribution Network Service Provider; or

(2) a street address; or

(3) the code used by Australia Post to provide a unique identifier for postal addresses.
(b) If a computer search by the Distribution Network Service Provider does not produce a unique match for the information provided by the retailer, the Distribution Network Service Provider must provide the retailer with any computer matches achieved up to a maximum of 99.

7.13.3 NMI Standing Data

A Distribution Network Service Provider must, at the request of a retailer, and within 2 business days of the date of the request, provide the retailer with the NMI Standing Data for premises identified in the request by reference to the NMI for the premises.

7.14 Metering data provision to retail customers

(a) AEMO must establish, maintain and publish the metering data provision procedures in accordance with this rule 7.14, this Chapter 7, and otherwise in accordance with the Rules.

(b) The objective of the metering data provision procedures is to establish the minimum requirements for the manner and form in which metering data should be provided to a retail customer (or its customer authorised representative) in response to a request for such data from the retail customer or customer authorised representative to the retailer or the Distribution Network Service Provider.

(c) The metering data provision procedures must:

(1) specify the manner and form in which retail customers' metering data must be provided, including a:

   (i) detailed data format; and

   (ii) summary data format;

(2) for retail customers for whom interval metering data is available, specify the summary data format, which, at a minimum should include the retail customer's:

   (i) nature and extent of energy usage for daily time periods;

   (ii) usage or load profile over a specified period; and

   (iii) a diagrammatic representation of the information referred to in subparagraph (i);

(3) for retail customers for whom accumulated metering data is available, specify a summary data format;

(4) include timeframes in which a retailer or a Distribution Network Service Provider must, using reasonable endeavours, respond to requests made by a retail customer or customer's authorised representative. The timeframe to be included must:

   (i) be no more than 10 business days, except where requests are made by a customer authorised representative in relation to more than
one retail customer of either the retailer or Distribution Network Service Provider to whom the request is made; and

(ii) take account of procedures in place relating to the validation of metering data; and

(5) specify a minimum method of delivery for the requested metering data.

(d) Retailers and Distribution Network Service Providers must comply with the metering data provision procedures when responding to requests by a retail customer or customer authorised representative.

### Part F Security of metering installation and energy data

#### 7.15 Security of metering installation and energy data

##### 7.15.1 Confidentiality

(a) Energy data, metering data, NMI Standing Data, information included under a scheme for a NMI Standing Data Schedule as referred to in clause 3.13.12A, information in the metering register and passwords are confidential and must be treated as confidential information in accordance with the Rules.

(b) For the purposes of clause 8.6.2(c), metering data from a metering installation at a retail customer's connection point is deemed to have been provided by the retail customer.

##### 7.15.2 Security of metering installations

(a) The Metering Coordinator at a connection point must ensure that the 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 Metering Coordinator.

(c) If a Local Network Service Provider, financially responsible Market Participant, Metering Provider or Metering Data Provider becomes aware that a seal protecting metering equipment has been broken, it must notify the Metering Coordinator within 5 business days.

(d) If a broken seal has not been replaced by the person who notified the Metering Coordinator under paragraph (c), the Metering Coordinator must ensure that the broken seal is replaced no later than:

1. the first occasion on which the metering equipment is visited to take a reading; or
2. 100 days,
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 a *retail customer* of that Market Participant;

2. a *Registered Participant* if the seal was broken by the *Registered Participant*;

3. the *Metering Provider* if the seal was broken by the *Metering Provider*;

4. the *Metering Data Provider* if the seal was broken by the *Metering Data Provider*; or

5. otherwise by the *Metering Coordinator*.

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 *Metering Coordinator* must ensure that the *metering* equipment is tested.

### 7.15.3 Security controls for energy data

(a) The *Metering Coordinator* must ensure that *energy data* held in the *metering installation* is protected from local access and remote access by suitable password and security controls in accordance with 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 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) Except as otherwise specified in clause 7.15.4(e), 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. For the avoidance of doubt, a *financially responsible Market Participant* may allocate that 'read only' password to a *retail customer* who has requested access to its *energy data* in accordance with paragraph (g).

**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 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.

(g) Subject to the authorisation of the Metering Coordinator which is for the purpose of managing congestion in accordance with clause 7.15.5(b), if a retail 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 retail customer within 10 business days.

(h) The Metering Coordinator 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 energy data and to maintain the clock of the metering installation in accordance with clause 7.10.6.

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.)

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

7.15.4 Additional security controls for small customer metering installations
In respect of a small customer metering installation:
(a) the Metering Coordinator must ensure that access to energy data held in the metering installation is only given to a person and for a purpose that is permitted under the Rules;

(b) the Metering Coordinator must ensure that access to services provided by the metering installation and metering data from the metering installation is only given to:

   (1) in respect of a service listed in the minimum services specification in column 1 of table S7.5.1.1 and of metering data in connection with that service, an access party listed in column 3 of table S7.5.1.1;

   (2) a person and for a purpose that is permitted under the Rules; or

   (3) except as otherwise specified in subparagraph (1) or (2):

      (i) the Local Network Service Provider, but only to the extent that, in the Metering Coordinator’s reasonable opinion, such access is reasonably required by the Local Network Service Provider to enable it to meet its obligations to provide a safe, reliable and secure network; or

      (ii) a person and for a purpose to which the small customer has given prior consent;

(c) the Metering Coordinator must ensure that the services provided by the metering installation are protected from local access and remote access by suitable password and security controls in accordance with paragraph (e);

(d) the Metering Provider must keep records of passwords secure; and

(e) the Metering Provider must ensure that:

   (1) it forwards a copy of a password allowing local access and a copy of a password allowing remote access to the metering installation, services provided by the metering installation and energy data held in the metering installation, to the Metering Coordinator, Metering Data Provider Embedded Network Manager in relation to child connection points and AEMO; and

   (2) except as provided above, no other person receives or has access to a copy of a password allowing local access or remote access to the metering installation, services provided by the metering installation or energy data held in 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.)

7.15.5 Access to data

(a) Access to energy data recorded by a metering installation must only be provided where passwords are allocated in accordance with rule 7.15.
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 Coordinator must ensure that access to energy data from the metering installation is scheduled appropriately to ensure that congestion does not occur.

c) Except as specified in paragraphs (d) or (e), only the following persons may access or receive metering data, settlements ready data, NMI Standing Data, and data from the metering register for a metering installation:

(1) Registered Participants with a financial interest in the metering installation or the energy measured by that metering installation;

(2) the Metering Coordinator appointed in respect of the connection point for that metering installation, or a person who was previously appointed as the Metering Coordinator in respect of that connection point, as required in connection with a Metering Coordinator default event in accordance with procedures authorised under the Rules;

(3) the Metering Provider appointed with respect to that metering installation;

(4) the Metering Data Provider appointed with respect to that metering installation, or who was previously appointed with respect to a metering installation as required in accordance with the Rules and procedures authorised under the Rules;

(5) AEMO and its authorised agents; and

(5a) in relation to a metering installation at a child connection point, an Embedded Network Manager;

(6) the AER or Jurisdictional Regulators upon request to AEMO.

d) In addition to the persons listed in paragraph (c), the following persons may access or receive metering data in accordance with the Rules and procedures authorised under the Rules:

(1) a retail customer or customer authorised representative, upon request by that retail customer or its customer authorised representative to the retailer or Distribution Network Service Provider in relation to that retail customer’s metering installation in accordance with the metering data provision procedures;

(2) if a small customer has consented to a person accessing the metering data from its small customer metering installation in accordance with clause 7.15.4(b)(3), to that person;

(3) a large customer or a customer authorised representative, in relation to metering data from the metering installation in respect of the connection point of the large customer;
(4) the *energy ombudsman* in accordance with paragraphs 7.11.1(i) – (k); and

(5) an *Exempt Embedded Network Service Provider* in relation to a *metering installation* at a *child connection point* on its network.

(e) In addition to the persons listed in paragraphs (c) and (d), a *retailer* may access and receive *NMI Standing Data*.

(f) Without limiting this clause 7.15.5 or clause 7.13.3:

(1) a *retailer* may access and receive *NMI Standing Data*;

(2) a *customer authorised representative* may receive *metering data*;

(3) a *retailer* or a *Distribution Network Service Provider* may access, receive or provide *metering data* to a *customer authorised representative*; and

(4) *Exempt Embedded Network Service Provider* and its *Embedded Network Manager* may access or receive *metering data*, after having first done whatever may be required or otherwise necessary, where relevant, under any applicable privacy legislation (including if appropriate making relevant disclosures or obtaining relevant consents from *retail customers*).

**Part G  Procedures**

**7.16  Procedures**

**7.16.1  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 7.17.

(b) The procedures authorised by *AEMO* under Chapter 7 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 7.17.

(d) The procedures authorised by the *Information Exchange Committee* must be established and maintained in accordance with the requirements of rule 7.17.

(e) The procedures established or maintained under this clause 7.16.1 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.
7.16.2 Market Settlement and Transfer Solution Procedures

(a) AEMO, must establish, maintain and publish Market Settlement and Transfer Solution Procedures.

(b) AEMO must publish any amendment to the Market Settlement and Transfer Solution Procedures.

(c) All Registered Participants, Metering Providers, Metering Data Providers and Embedded Network Managers 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.)

(d) If a Registered Participant, Metering Provider, Metering Data Provider or Embedded Network Manager breaches the requirements of the Market Settlement and Transfer Solution Procedures, AEMO may send to that Registered Participant, Metering Provider, Metering Data Provider or Embedded Network Manager a notice in writing setting out the nature of the breach.

(e) If the Registered Participant, Metering Provider, Metering Data Provider or Embedded Network Manager remains in breach for more than 5 business days after receipt of the notice from AEMO, AEMO must advise:

(1) the AER; and

(2) in the case of breach by a Registered Participant other than a Metering Coordinator, the Authority responsible for administering jurisdictional electricity legislation in the participating jurisdiction in which the connection point to which the breach relates is located.

7.16.3 Requirements of the metrology procedure

(a) AEMO must establish, maintain and publish the metrology procedure that will apply to metering installations in accordance with this clause 7.16.3 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 7.16.7(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;
(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 Metering Coordinators, financially responsible Market Participants, Local Network Service Providers, Metering Providers, Metering Data Providers and Embedded Network Managers;

(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 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 7.16.4(d)(2), zero MWh as the specification for the type 5 accumulation boundary;

(6) procedures for:

(i) the validation and substitution of metering data;

(ii) the estimation of metering data;

(iii) the method:

(A) by which accumulated metering data is to be converted by AEMO into trading interval metering data; and

(B) of managing the first-tier load metering data that is necessary to enable the conversion referred to in subparagraph (A) to take place; and

(7) other matters in the Rules required to be included in the metrology procedure.

### 7.16.4 Jurisdictional metrology material in metrology procedure

(a) Subject to this clause 7.16.4, 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.

(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 7.16.4;

(3) be consistent with the matters contained in clauses 7.16.3 and 7.16.5;

(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 subparagraph (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 7.16.4.

(h) The jurisdictional metrology material must not prevent the metering data from being collected as interval metering data if required by the financially responsible Market Participant or a Local Network Service Provider for any purpose other than for settlements.
7.16.5 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;
   (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, Metering Data Providers and Embedded Network Managers; and
   (vi) with respect to the provision, installation and maintenance of metering installations and the provision of metering data services, the obligations of Metering Coordinators, financially responsible Market Participants, Local Network Service Providers, AEMO, Metering Providers and Metering Data Providers;

(2) specify in detail:
   (i) the accuracy of metering installations;
   (ii) inspection and testing standards;
   (iii) Metering Provider, Metering Data Provider and Embedded Network Manager capabilities in accordance with Schedules 7.2, 7.3 and 7.7 respectively, and accreditation standards;
   (iv) the standards and/or technical requirements for the metering data services database; and
   (v) 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 4A, 5, 6 and 7 metering installations specify in what circumstances metering data held in the metering data services database 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

(5) 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.
The metrology procedure may not include information relating to consumer protection.

### 7.16.6 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 clause 7.16.6.

(b) AEMO must establish, maintain and publish the service level procedures in accordance with clause 7.16.1.

(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 relating to, without limitation:

1. 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.

7.16.6A Requirements of the ENM service level procedures

(a) AEMO must establish, maintain and publish the ENM service level procedures that apply to Embedded Network Managers, in accordance with this Chapter 7 and this clause 7.16.6A.

(b) AEMO must establish and publish the ENM service level procedures in accordance with clause 7.16.7.

(c) The ENM service level procedures must include:

(1) a list of embedded network management services;
(2) the requirements for the provision of embedded network management services;
(3) the requirements for the management of relevant EN wiring information;
(4) the requirements for the assignment of the parent connection point and child connection points on an embedded network;
(5) application of distribution loss factors in relation to the embedded network;
(6) the requirements for the notification of distribution loss factors to AEMO; and
(7) information to ensure consistency in practice between the ENM 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 ENM service level procedures must include requirements for accreditation and registration for Embedded Network Managers, including, without limitation:

(1) requirements relating to cooperation with AEMO, Registered Participants, Metering Providers and Metering Data Providers;
(2) the confidentiality of information collected by the Embedded Network Managers;
(3) the resolution of disputes between AEMO and the Embedded Network Managers, 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 relevant database maintained by the Embedded Network Managers;

(5) the insurance which must be taken out by or on behalf of the Embedded Network Managers;

(6) subcontracting by the Embedded Network Managers;

(7) the software and systems that are used by the Embedded Network Managers;

(8) the ownership of intellectual property that is developed or used by the Embedded Network Managers; and

(9) 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 an Embedded Network Manager.

(e) The ENM 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.

7.16.6B Guide to embedded networks

AEMO must develop and publish a guide to embedded networks addressing, without limitation:

(a) the nature of exemptions granted by the AER under section 13(3) of the National Electricity Law and clause 2.5.1(d) in respect of embedded networks;

(b) which retailers and other persons are able to sell electricity to consumers whose premises are supplied with electricity conveyed through embedded networks; and

(c) the roles, responsibilities and obligations of Embedded Network Managers under the Rules and procedures authorised under the Rules.

7.16.7 Amendment of procedures in the Metering Chapter

(a) Any person (the 'proponent') may submit to AEMO a proposal (the 'proposal') to amend any procedure in this 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 7.17,

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 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, Embedded Network Managers, 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, Metering Data Provider or Embedded Network Manager;

(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.

7.16.8 National Measurement Act

(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.
7.17 B2B Requirements

7.17.1 B2B e-Hub

(a) AEMO must provide and operate a B2B e-Hub.

(b) The B2B e-Hub must:

1. have the capability to facilitate the B2B Communications in accordance with the B2B Procedures;
2. have the capability to support a free-form method of communication between B2B Parties; and

(c) A person must not use the B2B e-Hub unless they are a B2B e-Hub Participant.

(d) Each B2B Party and AEMO must comply with the B2B Procedures.

(e) Subject to paragraph (f), each B2B Party must use the B2B e-Hub for B2B Communications in accordance with the B2B Procedures.

(f) B2B Parties may, on such terms and conditions as agreed between them, communicate a B2B Communication on a basis other than through the B2B e-Hub provided the B2B Communication is otherwise made in accordance with the B2B Procedures.

(g) Despite paragraphs (d) and (e), a person:

1. appointed as a Metering Coordinator in respect of a transmission network connection point; and
2. not accredited as a B2B e-Hub Participant,

is not required to:

3. comply with the B2B Procedures; and
4. use the B2B e-Hub for B2B Communications,

in respect of that transmission network connection point.

7.17.2 B2B e-Hub Participants

(a) A B2B e-Hub Participant is a person so accredited with AEMO.

(b) AEMO must establish and maintain an accreditation process for B2B e-Hub Participants (including circumstances under which accreditation can be revoked by AEMO) and publish information relating to the process by which parties can apply to be accredited as B2B e-Hub Participants.

(c) To be eligible for accreditation as a B2B e-Hub Participant, a person must:
(1) satisfy AEMO that it is complying with and will comply with the Rules and the procedures authorised under the Rules; and

(2) satisfy such other requirements as reasonably determined by AEMO, which may include (but are not limited to):

   (i) systems and information technology requirements necessary for secure use of the B2B e-Hub; and

   (ii) fee payment and credit support requirements.

(d) AEMO may exempt persons or classes of persons from any one or more requirements of the accreditation process for B2B e-Hub Participants established under paragraph (b), subject to such conditions as AEMO deems appropriate.

7.17.3 Content of the B2B Procedures

(a) The B2B Procedures may be constituted by one or more separate documents and:

   (1) must provide for B2B Communications to support each of the services set out in the minimum services specification;

   (2) may provide for any other B2B Communications determined in accordance with the Rules;

   (3) may include obligations in relation to the information to be maintained and provided to support B2B Communications;

   (4) must not restrict B2B Parties from communicating B2B Communications on a basis other than through the B2B e-Hub as permitted under clause 7.17.1(f); and

   (5) may include minimum performance standards for the B2B e-Hub.

(b) For each B2B Communication, the B2B Procedures:

   (1) must specify:

       (i) the required B2B Data inputs and B2B Data outputs;

       (ii) the required business process flows and related timing requirements;

       (iii) the required content and format;

       (iv) the required delivery method; and

       (v) the back-up delivery method to be used where the required delivery method cannot be used; and

   (2) may specify:

       (i) details for testing and certification;

       (ii) provisions relating to contingency arrangements; and

       (iii) examples of how a B2B Communication may operate in practice.
7.17.4 Changing B2B Procedures

Change date for B2B Procedures

(a) Any change to the B2B Procedures must specify the date on which the change to the B2B Procedures will commence (B2B change date). The B2B change date must be not less than 10 business days after the B2B Decision to make the change is published.

(b) The Information Exchange Committee may change the B2B change date to a date later than that previously specified by the Information Exchange Committee following consultation with AEMO and any affected B2B Parties and B2B Change Parties. If the B2B change date is changed by the Information Exchange Committee, the Information Exchange Committee must provide AEMO with that date and AEMO must publish that date.

(c) 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.

Minor and administrative changes to the B2B Procedures

(d) If a change to the B2B Procedures is of a minor or administrative 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. Paragraphs (a) to (c) and (n) to (q) (inclusive) and clause 7.17.5 apply to such a change (with any necessary modifications).

(e) AEMO must publish its B2B Decision in relation to a change under paragraph (d) and notify all B2B Parties of the change to the B2B Procedures.

B2B Procedure change process

(f) Any person (other than the Information Exchange Committee) may propose a change to the B2B Procedures by providing a change proposal to the Information Exchange Committee in writing. A change proposal must provide details of the proposed change to the B2B Procedure and supporting information, including reasons for the proposed change.

(g) Within 25 business days of receipt by the Information Exchange Committee of a proposal under paragraph (f), the Information Exchange Committee must meet to determine whether, on a prima facie basis, changing the B2B Procedures is warranted having regard to the national electricity objective and the B2B factors and considering the B2B Principles.

(h) If, after its consideration under paragraph (g), the Information Exchange Committee decides that the proposal made under paragraph (f) should not be...
considered further, the Information Exchange Committee must within five business days provide written reasons for that decision to the person who made the proposal.

(i) If, after its consideration under paragraph (g), the Information Exchange Committee decides that the proposal made under paragraph (f) should be considered further, the Information Exchange Committee must:

(1) develop the proposal into a B2B Proposal (which may differ from the proposal originally made) and an accompanying B2B Procedures Change Pack for consultation; and

(2) seek AEMO's advice on whether:

   (i) a conflict with the Market Settlement and Transfer Solution Procedures arises from the B2B Proposal; and

   (ii) changes are required to the B2B e-Hub in order to deliver the B2B Proposal and, if so, the likely costs of making such changes,

and include any such advice in the B2B Procedures Change Pack.

(j) 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 B2B Parties, relevant B2B Change Parties, AEMO and such other persons who identify themselves to the Information Exchange Committee as interested in the B2B Procedures. For the purposes of the notice, the particulars of the matters under consultation must include a copy of the B2B Procedures Change Pack.

(k) AEMO must publish the notice of consultation within 3 business days of its receipt and must notify all persons referred to in paragraph (j) of the consultation.

(l) In addition to the matters which rule 8.9(g) requires be included in the draft report, the draft report must contain details of how the Information Exchange Committee has:

(1) had regard to the national electricity objective and the B2B factors; and

(2) sought to give effect to the B2B Principles,

when considering the B2B Proposal and each valid written submission.

(m) In addition to the matters which rule 8.9(k) requires be included in the final report, the final report must contain details of how the Information Exchange Committee has:

(1) had regard to the national electricity objective and the B2B factors; and

(2) sought to give effect to the B2B Principles,

when considering the B2B Proposal and each valid written submission.

(n) The Information Exchange Committee may decide:
(1) not to recommend the proposed change to the B2B Procedures; or
(2) to recommend a change to the B2B Procedures to AEMO.

(o) An Information Exchange Committee Recommendation may recommend a different change to the B2B Procedures than that originally proposed under paragraph (f).

(p) The Information Exchange Committee's decision under paragraph (n) must be included in the final report required under rule 8.9(k).

(q) In making a decision under paragraph (n), the Information Exchange Committee must:

(1) have regard to the national electricity objective and the B2B factors; and
(2) seek to give effect to the B2B Principles.

(r) For the purposes of paragraph (q), 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.

7.17.5 B2B Decision

(a) If the Information Exchange Committee decides not to recommend a change to the B2B Procedures under clause 7.17.4(n)(1), AEMO must take no further action in respect of the proposal.

(b) 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 the Information Exchange Committee Recommendation would conflict with the Market Settlement and Transfer Solution Procedures.

(c) In considering whether the Information Exchange Committee Recommendation would conflict with the Market Settlement and Transfer Solution Procedures, AEMO must not otherwise consider the merits of the Information Exchange Committee Recommendation.

(d) 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.

(e) 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.

(f) If AEMO decides not to approve an Information Exchange Committee Recommendation (a Vetoed Recommendation), then:

(1) the reasons for the B2B Decision which are to be published and made available in accordance with paragraph (e) must include an explanation
of how the Vetoed Recommendation would give rise to a conflict with the Market Settlement and Transfer Solution Procedures; and

(2) the Information Exchange Committee may:

(i) reconsider the proposal made under clause 7.17.4(f) in respect of which the Vetoed Recommendation was made; and

(ii) make a new Information Exchange Committee Recommendation, which may materially differ from the Vetoed Recommendation, in accordance with clauses 7.17.4(i) to 7.17.4(r) (inclusive).

7.17.6 Establishment of Information Exchange Committee

(a) AEMO must establish the Information Exchange Committee in accordance with the Information Exchange Committee Election Procedures and the Rules.

(b) The Information Exchange Committee must consist of:

(1) one Distribution Network Service Provider Member;

(2) one Retailer Member;

(3) one Metering Member;

(4) one Consumer Member;

(5) one AEMO Member;

(6) if there is at least one person that is accredited by AEMO as a B2B e-Hub Participant and that person:

(i) is a Third Party B2B Participant; and

(ii) nominates a representative for election as the Third Party B2B Participant Member,

one Third Party B2B Participant Member; and

(7) at least two, but no more than four, Discretionary Members.

(c) AEMO must maintain a register of Members which includes:

(1) the name of each current Member and their category of membership; and

(2) in respect of each Discretionary Member, a description of the class or classes of persons that the Discretionary Member has been appointed by AEMO to represent under clause 7.17.10(d).

(d) Subject to paragraph (e), the AEMO Member is the chairperson of the Information Exchange Committee.

(e) If the AEMO Member is unable to act as chairperson at a meeting of the Information Exchange Committee because he or she has, or would reasonably be considered to have, a material conflict of interest in the matter to be decided or determined by the Information Exchange Committee at that meeting, then
a Member chosen by an ordinary majority may preside as chairperson of the meeting for the relevant matter.

(f) 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 and the Rules.

(g) B2B Parties must ensure that the Information Exchange Committee Election Procedures include provisions in respect of:

(1) procedures for nominating Members and voting for Members;
(2) the term of a Member;
(3) procedures for the determination and publication of results of elections of a Member: and
(4) procedures for the removal or resignation of a Member.

7.17.7 Functions and powers of Information Exchange Committee

(a) 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.

(b) The Information Exchange Committee must prepare an Information Exchange Committee Annual Report by 31 December each year. 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.

(c) The Information Exchange Committee Annual Report must contain the information required by the Information Exchange Committee Operating Manual.

(d) 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.

(e) The Information Exchange Committee must provide to AEMO the current version of the B2B Procedures and the Information Exchange Committee Works Programme.

(f) AEMO must publish the B2B Procedures and the Information Exchange Committee Works Programme provided to it by the Information Exchange Committee.

7.17.8 **Obligations of Members**

(a) Each Member in performing his or her duties or in exercising any right, power or discretion as a Member must:

(1) have regard to the national electricity objective and B2B factors; and

(2) seek to give effect to 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 parties by which he or she is employed and/or which nominated him or her to be a Member;

(4) not make improper use of his or her position to gain, directly or indirectly, an advantage for himself or herself or the parties by which he or she is employed and/or which nominated him or her to be a Member; and

(5) not take part in any decision or determination of the Information Exchange Committee where the Member has, or would reasonably be considered to have, a material conflict of interest in the matter to be decided or determined by the Information Exchange Committee.

(b) For the purposes of subparagraph (a)(5), a conflict will be material if it detracts, or would reasonably be considered to be likely to detract, from the Member's capacity to exercise independent judgment in respect of the relevant decision or determination.

(c) Notwithstanding subparagraph (a)(5) and paragraph (b), a B2B Party may take into account the interests of the persons it has been elected to represent in performing his or her duties or in exercising any right, power or discretion.
(d) Notwithstanding subparagraph (a)(5) and paragraph (b), the Consumer Member may take into account the interests of small customers in performing his or her duties or in exercising any right, power or discretion.

(e) Notwithstanding subparagraph (a)(5) and paragraph (b), the Discretionary Member may take into account the interests of the persons the Discretionary Member was appointed by AEMO to represent in performing his or her duties or in exercising any right, power or discretion.

(f) Notwithstanding subparagraph (a)(5) and paragraph (b), the AEMO Member may take into account the interests of AEMO in performing his or her duties or in exercising any right, power or discretion.

7.17.9 Meetings of Information Exchange Committee

(a) The Information Exchange Committee must meet at least once every three months.

(b) The quorum for a meeting of the Information Exchange Committee consists of:

(1) if there are less than nine Members, five Members; and

(2) if there are nine Members or more, six Members,

and must include the AEMO Member, except where the AEMO Member is unable to attend the meeting because he or she has, or would reasonably be considered to have, a material conflict of interest in the matter to be decided or determined by the Information Exchange Committee at the meeting.

(c) A decision of the Information Exchange Committee is not valid and enforceable unless, in respect of:

(1) an Information Exchange Committee Recommendation, it has the support of a super majority;

(2) any decision that a proposal under clause 7.17.4(f) should not be considered further after initial consideration under clause 7.17.4(g), and any decision to not recommend a change to the B2B Procedures for approval by AEMO, it has the support of a super majority;

(3) any decision to approve the Information Exchange Committee Works Programme, it has the support of a super majority; and

(4) any other decision by the Information Exchange Committee, it has the support of an ordinary majority.

7.17.10 Nomination, election and appointment of Members

(a) A person may only be nominated and elected as a Member in accordance with the Information Exchange Committee Election Procedures and the Rules including, without limitation, this clause 7.17.10 and clause 7.17.11.

(b) AEMO must appoint a Consumer Member. Prior to making such appointment, AEMO must consult with Energy Consumers Australia and may consult with any other person or persons determined by AEMO.
(c) AEMO must appoint an AEMO Member and the AEMO Member must be a director of AEMO.

(d) AEMO must appoint at least two, but may appoint up to four, Discretionary Members to represent a class or classes of persons who, in AEMO’s reasonable opinion, have an interest in the B2B Procedures and those interests are not adequately represented on the Information Exchange Committee. Prior to making such appointments, AEMO may consult with any person or persons determined by AEMO.

(e) Distribution Network Service Providers must elect a Distribution Network Service Provider Member.

(f) Retailer Member Voters must elect a Retailer Member.

(g) Metering Member Voters must elect a Metering Member.

(h) Third Party B2B Participants must elect a Third Party B2B Participant Member.

(i) Any person who is:
   (1) both a retailer and a Local Retailer, may nominate and vote only once in respect of the appointment of a Retailer Member; and
   (2) registered with AEMO in two or more of the categories of Metering Coordinator, Metering Provider and Metering Data Provider, may nominate and vote only once in respect of the appointment of a Metering Member.

(j) If two or more persons are related bodies corporate and belong to the same Voter Category (related voters) then only one of the related voters may nominate and vote in respect of an election for a Distribution Network Service Provider Member, a Retailer Member, Metering Member or Third Party B2B Participant Member, as the case may be.

7.17.11 Qualifications of Members

(a) In this clause, being Independent of another person means:
   (1) is not currently an employee or director of that person;
   (2) is not:
      (i) an employee of, or a partner in, any partnership; or
      (ii) an employee of, or a director of, any company, which partnership or company is an adviser or consultant to that person, where such relationship is a significant source of income for that partnership or company; or
   (3) an adviser or consultant to that person, where such relationship is a significant source of income for that adviser or consultant.
(b) Each B2B Party must ensure that a person they nominate as a Member satisfies the requirements for that particular category of Member as set out in the Information Exchange Committee Election Procedures and the Rules.

(c) A B2B Party must ensure that a person they nominate as a Member:

(1) has knowledge of and experience in the National Electricity Market;
(2) in relation to Members voted by a particular Voter Category, has experience with and skills in considering, issues that affect the relevant Voter Category.
(3) has knowledge of the subject matter of B2B Procedures; and
(4) has knowledge and understanding of the Rules and the related legislative and regulatory framework.

(d) AEMO must ensure that an appointee for a Discretionary Member or the Consumer Member:

(1) has knowledge of and experience with the National Electricity Market;
(2) has experience with and skills in considering issues that affect:

(i) in respect of a Discretionary Member, the class or classes of persons whom the Discretionary Member represents (as specified in the register kept pursuant to clause 7.17.6(c)); and
(ii) in respect of the Consumer Member, small customers;
(3) has knowledge of the subject matter of B2B Procedures;
(4) has knowledge and understanding of the Rules and the related legislative and regulatory framework; and
(5) in the case of the Discretionary Member, is Independent of AEMO.

7.17.12 Information Exchange Committee Election Procedures and Information Exchange Committee Operating Manual

(a) The Information Exchange Committee, AEMO and B2B Parties must comply with the Information Exchange Committee Election Procedures and the Information Exchange Committee Operating Manual.

(b) B2B Parties and AEMO are not obliged to comply with an amendment to the Information Exchange Committee Election Procedures unless that amendment is made in accordance with this clause.

(c) 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 not less than 75% of voters in each of at least three of the Voter Categories for the following Members:

(1) Distribution Network Service Provider Member;
(2) Retailer Member;
(3) Metering Member; and

(4) Third Party B2B Participant Member.

(d) AEMO must publish the current version of the Information Exchange Committee Election Procedures.

(e) B2B Parties and AEMO are not obliged to comply with an amendment to the Information Exchange Committee Operating Manual unless that amendment is made in accordance with this clause.

(f) 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 not less than 75% of voters in each of at least three of the Voter Categories for the following Members:

(1) Distribution Network Service Provider Member;

(2) Retailer Member;

(3) Metering Member; and

(4) Third Party B2B Participant Member.

(g) AEMO must publish the current version of the Information Exchange Committee Operating Manual.

7.17.13 Cost Recovery

(a) The B2B costs must be paid by AEMO in the first instance and recouped by AEMO as Participant fees.

(b) Subject to paragraph (a), the costs of any Member relating to their participation in the Information Exchange Committee and the costs of individuals relating to their participation in the Information Exchange Committee Working Groups is not to be borne by AEMO.

(c) The cost to a person of implementing and maintaining the necessary systems and processes to ensure compliance with B2B Procedures must be met by that person.

Schedule 7.1 Metering register

S7.1.1 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
the auditable control of changes to the registered information.

S7.1.2 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 and the Embedded Network Manager in relation to a child connection point;
   (5) details of the Metering Coordinator; 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, 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;
   (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 (e.g. 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 7.2 Metering Provider

S7.2.1 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 7.2.

(c) A Metering Provider must have the necessary licences in accordance with appropriate State and Territory requirements.

(d) 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.

S7.2.2 Categories of registration

(a) Registrations for Metering Providers in relation to the provision, installation and maintenance of metering installation types 1, 2, 3, 4 and 4A must be categorised in accordance with Tables S7.2.2.1, S7.2.2.2 and S7.2.2.3, or other procedures approved by AEMO.

(b) 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 S7.2.2.4 with the capabilities established in the metrology procedures.
(c) Registration for Metering Providers in relation to the provision, installation and maintenance of small customer metering installations must be categorised in accordance with Tables S7.2.2.2 and satisfy the requirements in clause S7.2.5.

(d) AEMO may establish Accredited Service Provider categories of registration for a Metering Provider in accordance with clause S7.2.6.

**Table S7.2.2.1 Categories of registration for accreditation**

<table>
<thead>
<tr>
<th>Category</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1C</td>
<td>Class 0.2 CTs with &lt; 0.1% uncertainty.</td>
</tr>
<tr>
<td>1V</td>
<td>Class 0.2 VTs with &lt; 0.1% uncertainty.</td>
</tr>
<tr>
<td>1M</td>
<td>Class 0.2 Wh meters with &lt; 0.1/cosφ% uncertainty and class 0.5 varh meters with &lt;0.3/sinφ uncertainty.</td>
</tr>
<tr>
<td>1A</td>
<td>Class 0.2 CTs, VTs, Wh meters; class 0.5 varh meters; the total installation to 0.5%. Wh with &lt; 0.2% uncertainty at unity power factor; 1.0% for varh with &lt;0.4% uncertainty at zero power factor.</td>
</tr>
<tr>
<td>2C</td>
<td>Class 0.5 CTs with &lt; 0.2% uncertainty.</td>
</tr>
<tr>
<td>2V</td>
<td>Class 0.5 VTs with &lt; 0.2% uncertainty.</td>
</tr>
<tr>
<td>2M</td>
<td>Class 0.5 Wh meters with &lt; 0.2/cosφ uncertainty and class 1.0 varh meters with &lt;0.4/sinφ uncertainty.</td>
</tr>
<tr>
<td>2A</td>
<td>Class 0.5 CTs, VTs, Wh meters; class 1.0 varh meters; the total installation to 1.0%. Wh with &lt; 0.4% uncertainty at unity power factor; 2.0% for varh with &lt;0.5% uncertainty at zero power factor.</td>
</tr>
<tr>
<td>3M</td>
<td>Class 1.0 Wh meters with &lt; 0.3/cosφ uncertainty and class 2.0 varh meters with &lt;0.5/sinφ uncertainty.</td>
</tr>
<tr>
<td>3A</td>
<td>Class 0.5 CTs, VTs; class 1.0 Wh meters; class 2.0% varh meters; the total installation to 1.5%. Wh with &lt; 0.5% uncertainty at unity power factor; 3.0% for varh with &lt;0.6% uncertainty at zero power factor.</td>
</tr>
<tr>
<td>4M</td>
<td>Class 1.0 Wh meters and class 1.5 Wh meters with &lt;0.3/cosφ% uncertainty.</td>
</tr>
<tr>
<td>4A</td>
<td>Class 1.0 Wh meters and class 1.5 Wh meters with &lt;0.3/cosφ% uncertainty.</td>
</tr>
<tr>
<td>4S</td>
<td>Class 1.0 Wh meters and class 1.5 Wh meters with &lt;0.3/cosφ% uncertainty.</td>
</tr>
</tbody>
</table>
Table S7.2.2.3  Categories of registration for accreditation

<table>
<thead>
<tr>
<th>Category</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>Approved <em>communications interface</em> installer</td>
</tr>
</tbody>
</table>

Table S7.2.2.4  Categories of registration for accreditation

<table>
<thead>
<tr>
<th>Category</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>5A</td>
<td>Installation only&lt;br&gt;Class 1.0 and class 1.5 whole current Wh <em>meters</em> with &lt;0.3/cosΦ% uncertainty.</td>
</tr>
<tr>
<td>6A</td>
<td>Installation only&lt;br&gt;Class 1.5 whole current Wh <em>meters</em> with &lt;0.3/cosΦ% uncertainty.</td>
</tr>
<tr>
<td>5B</td>
<td>Class 1.0 and class 1.5 whole current or CT connected Wh <em>meters</em> with &lt;0.3/cosΦ% uncertainty.</td>
</tr>
<tr>
<td>6B</td>
<td>Class 1.5 whole current or CT connected Wh <em>meters</em> with 0.3&lt;/cosΦ% uncertainty.</td>
</tr>
</tbody>
</table>

S7.2.3  Capabilities of Metering Providers for metering installations types 1, 2, 3, 4 and 4A

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 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:

(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 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 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;
   - Type 4A – 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.

S7.2.4 Capabilities of Metering Providers for metering installations types 5 and 6

Metering Providers, who apply for categories of Metering Provider accreditation of metering installations types 5 and/or 6, must be able to exhibit, to the reasonable satisfaction of AEMO all of the capabilities relevant to that type of metering installation which are set out in the Rules and procedures authorised under the Rules.

S7.2.5 Capabilities of Metering Providers for small customer metering installations

Category 4S Metering Providers must be able to exhibit, to the reasonable satisfaction of AEMO:

(a) all of the capabilities in S7.2.3; and

(b) the establishment of an appropriate security control management plan and associated infrastructure and communications systems for the purposes of preventing unauthorised local access or remote access to metering installations, services provided by metering installations and energy data held in metering installations.
S7.2.6 Capabilities of the Accredited Service Provider category

(a) The Accredited Service Providers categories established by AEMO under clause S7.2.2(d) may perform work relating to the installation of any types 1, 2, 3, 4, 4A, 5 or 6 metering installations.

(b) AEMO must include Accredited Service Provider categories in the accreditation guidelines prepared and published under clause 7.4.1(c).

(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 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 7.3 Metering Data Provider

S7.3.1 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 7.3.

S7.3.2 Categories of registration

Categories of registration are set out in Table S7.3.2.1.

Table S7.3.2.1 Categories of registration for accreditation

<table>
<thead>
<tr>
<th>Metering installation type</th>
<th>Categories of registration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2 3 and/or 4</td>
<td>Category 1D, 2D, 3D and/or 4D (for remote acquisition, processing and delivery of metering data for connection points)</td>
</tr>
<tr>
<td></td>
<td>Category 4AC, 5C and/or 6C (for manual collection or remote acquisition of metering data)</td>
</tr>
</tbody>
</table>
### S7.3.3 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 *Metering Coordinator*.

(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 a security control management plan;

(5) maintain security controls and data integrity; and

(6) 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.
S7.3.4 Capabilities of Metering Data Providers for small customer metering installations

Category 4S Metering Data Providers must be able to exhibit, to the reasonable satisfaction of AEMO:

(a) all the capabilities in S7.3.3; and

(b) the establishment of an appropriate security control management plan and associated infrastructure and communications systems for the purposes of preventing unauthorised local access or remote access to metering installations, services provided by metering installations and energy data held in metering installations.

Schedule 7.4 Types and Accuracy of Metering installations

S7.4.1 General requirements

(a) This Schedule 7.4 sets out the minimum requirements for metering installations.

S7.4.2 Metering installations commissioned prior to 13 December 1998

(a) This clause provides conditions that are to apply to metering installations that were commissioned prior to 13 December 1998.

(b) The use of metering class current transformers and voltage transformers that are not in accordance with Table S7.4.3.1 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.

(c) 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.

(d) Where the requirements of paragraph (b) and (c) cannot be achieved then the Metering Coordinator is required to comply with transitional arrangements or obtain an exemption from AEMO or upgrade the metering installation to comply with this Schedule 7.4.

(e) The arrangements referred to in paragraph (d) may remain in force while the required accuracy and performance can be maintained within the requirements of the Rules.

(f) The purchase of new current transformers and voltage transformers must comply with the Rules.
### S7.4.3  Accuracy requirements for metering installations

#### Table S7.4.3.1  Overall Accuracy Requirements of Metering Installation Components

<table>
<thead>
<tr>
<th>Type</th>
<th>Volume limit per annum per connection point</th>
<th>Maximum allowable overall error (±%) at full load (Item 6)</th>
<th>Minimum acceptable class or standard of components</th>
<th>Metering installation clock error (seconds) in reference to EST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>active reactive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>greater than 1000GWh</td>
<td>0.5 1.0</td>
<td>0.2CT/VT/meter Wh</td>
<td>±5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.5 meter varh</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>100 to 1000GWh</td>
<td>1.0 2.0</td>
<td>0.5CT/VT/meter Wh</td>
<td>±7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.0 meter varh</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.75 to less than 100 GWh</td>
<td>1.5 3.0</td>
<td>0.5CT/VT</td>
<td>±10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.0 meter Wh</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.0 meter varh</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Item 1)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>less than 750 MWh (Item 2)</td>
<td>1.5 n/a</td>
<td>Either 0.5 CT and 1.0 meter Wh; or whole current general purpose meter Wh:</td>
<td>±20 (Item 2a)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• meets requirements of clause 7.8.2(a)(9); and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• meets the requirements of clause 7.10.7(a).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Item 1)</td>
<td></td>
</tr>
<tr>
<td>4A</td>
<td>less than x MWh Item 3</td>
<td>1.5 3.0</td>
<td>Either 0.5 CT and 1.0 meter Wh; or whole current general purpose meter Wh:</td>
<td>±20 (Item 2a)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• meets the requirements of clause 7.8.2(a)(10); and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• has the capability, if remote access is activated, of providing the</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Volume limit per annum per connection point</td>
<td>Maximum allowable overall error (±%) at full load (Item 6)</td>
<td>Minimum acceptable class or standard of components</td>
<td>Metering installation clock error (seconds) in reference to EST</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>---------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>services in table S7.5.1.1; and • meets the requirements of clause 7.10.7(d).</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>less than x MWh (Item 3)</td>
<td>1.5 (Item 3b)</td>
<td>Either 0.5 CT and 1.0 meter Wh; or whole current connected general purpose meter Wh: • meets requirements of clause 7.8.2(a)(10); and • meets the requirements of clause 7.10.7(d). (Item 1)</td>
<td>'±/-20' (Item 3a)</td>
</tr>
<tr>
<td>6</td>
<td>less than y MWh (Item 4)</td>
<td>2.0 (Item 4b)</td>
<td>CT or whole current general purpose meter Wh recording accumulated energy 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. (Item 1)</td>
<td>(Item 4a)</td>
</tr>
<tr>
<td>7</td>
<td>volume limit not specified (Item 5)</td>
<td>(Item 6)</td>
<td>No meter. The metering data is calculated metering data determined in accordance with the metrology procedure.</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Item 1: (a) For a type 3, 4, 4A and 5 and 6 metering installation, whole current 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, 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 and 4A metering installation may be relaxed in the metrology procedure to accommodate evolving whole current technologies.

Item 3: The following requirements apply in relation to a type 4A and type 5 metering installation:

(1) 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;

(2) the maximum acceptable value of "x" determined under subparagraph (1) must be 750 MWh per annum; and

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.

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:

   (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) devices within the metering installation may record 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.

(b) The condition referred to in paragraph (a) will only be allowed for connection points where AEMO in consultation with the Metering Coordinator 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 in the future.

Item 6: The maximum allowable overall error (±%) at different loads and power factors is set out in Table S7.4.3.2 to Table S7.4.3.6.
Table S7.4.3.2  Type 1 Installation – Annual Energy Throughput greater than 1,000 GWh

<table>
<thead>
<tr>
<th>% Rated Load</th>
<th>Power Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unity</td>
</tr>
<tr>
<td></td>
<td>active</td>
</tr>
<tr>
<td>10</td>
<td>1.0%</td>
</tr>
<tr>
<td>50</td>
<td>0.5%</td>
</tr>
<tr>
<td>100</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Table S7.4.3.3  Type 2 Installation – Annual Energy Throughput between 100 and 1,000 GWh

<table>
<thead>
<tr>
<th>% Rated Load</th>
<th>Power Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unity</td>
</tr>
<tr>
<td></td>
<td>active</td>
</tr>
<tr>
<td>10</td>
<td>2.0%</td>
</tr>
<tr>
<td>50</td>
<td>1.0%</td>
</tr>
<tr>
<td>100</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Table S7.4.3.4  Type 3 Installation – Annual Energy Throughput from 0.75 GWh to less than 100 GWh and Type 4A Installation - Annual Energy Throughput less than 0.75 GWh

<table>
<thead>
<tr>
<th>% Rated Load</th>
<th>Power Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unity</td>
</tr>
<tr>
<td></td>
<td>active</td>
</tr>
<tr>
<td>10</td>
<td>2.5%</td>
</tr>
<tr>
<td>50</td>
<td>1.5%</td>
</tr>
<tr>
<td>100</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Table S7.4.3.5  Type 4 or 5 Installation – Annual Energy Throughput less than 0.75 GWh

<table>
<thead>
<tr>
<th>% Rated Load</th>
<th>Power Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unity</td>
</tr>
<tr>
<td></td>
<td>active</td>
</tr>
<tr>
<td>10</td>
<td>2.5%</td>
</tr>
<tr>
<td>50</td>
<td>1.5%</td>
</tr>
<tr>
<td>100</td>
<td>1.5%</td>
</tr>
</tbody>
</table>
Note:

All measurements in Tables S7.4.3.2 – S7.4.3.6 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 error shall be as close as practicable to zero.

S7.4.4 Check metering

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

<table>
<thead>
<tr>
<th>Metering Installation Type in accordance with Table S7.2.3.1</th>
<th>Check Metering Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Check metering installation</td>
</tr>
<tr>
<td>2</td>
<td>Partial check metering</td>
</tr>
<tr>
<td>3</td>
<td>No requirement</td>
</tr>
<tr>
<td>4, 4A, 5 and 6</td>
<td>No requirement</td>
</tr>
</tbody>
</table>

(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 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.

(e) The physical arrangement of partial check metering shall be agreed between the Metering Coordinator 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 metering installation, but must not exceed twice the level prescribed for the metering installation.

S7.4.5 Resolution and accuracy of displayed or captured data

Programmable settings available within a metering installation 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.

S7.4.6 General design standards

S7.4.6.1 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, the current transformer core and secondary wiring associated with the meter(s) 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 the current transformer core and secondary wiring associated with the meter(s) may be used for other purposes (e.g. local metering or protection) provided the Metering Coordinator 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.

S7.4.6.2 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 7.5 Requirements of minimum services specification

S7.5.1 Minimum services specification

A metering installation meets the minimum services specification if it:

(a) subject to paragraph (d), is capable of providing the services listed in table S7.5.1.1 in accordance with the procedures made under clause 7.8.3;

(b) is connected to a telecommunications network which enables remote access to the metering installation;

(c) achieves the maximum allowable overall error (±%) at rates not exceeding the rates set out in table S7.4.3.4; and

(d) in relation to a metering installation that is connected to a current transformer, is capable of providing the services listed in items (c) to (f) in table S7.5.1.1 in accordance with procedures made under clause 7.8.3.
### Table S7.5.1.1 Minimum Services Specification – services and access parties

<table>
<thead>
<tr>
<th></th>
<th>Service</th>
<th>Description</th>
<th>Access Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(a) remote disconnection service</td>
<td>The remote disconnection of a small customer’s premises via the metering installation.</td>
<td>Local Network Service Provider&lt;br&gt;financially responsible&lt;br&gt;Market Participant</td>
</tr>
<tr>
<td></td>
<td>(b) remote reconnection service</td>
<td>The remote reconnection of a small customer’s premises via the metering installation.</td>
<td>Local Network Service Provider&lt;br&gt;financially responsible&lt;br&gt;Market Participant</td>
</tr>
</tbody>
</table>
|   | (c) remote on-demand meter read service| The remote retrieval of metering data including quality flags for a specified point or points in time and the provision of such data to the requesting party. The service includes the retrieval and provision of:<br><br>  
  * reactive energy metering data and/or active energy metering data (for imports and/or exports of energy measured by the meter);<br>  * interval metering data and cumulative total energy measurement for the metering installation; and<br>  * accumulated metering data at the start and the end of the period specified in the request.<br>                                                                                                                                 | Registered Participants with a financial interest in the metering installation or the energy measured by that metering installation<br>A person to whom a small customer has given its consent under clause 7.15.4(b)(3)(ii) |
<p>|   | (d) remote scheduled meter read service| The remote retrieval of metering data including quality flags on a regular and ongoing basis and the provision of such data to the requesting party. The service includes the retrieval and provision of:&lt;br&gt;                                                                                                                                 | Registered Participants with a financial interest in the metering installation or the energy measured by that metering installation&lt;br&gt;A person to whom a small customer has given its consent under clause 7.15.4(b)(3)(ii) |
|------------|----------------|----------------|
|            | • reactive energy metering data and/or active energy metering data (for imports and/or exports of energy measured by the meter); | consent under clause 7.15.4(b)(3)(ii) |
|            | • interval metering data and cumulative total energy measurement for the metering installation; and | |
|            | • accumulated metering data at the start and the end of the period specified in the request. | |
| (e) metering installation inquiry service | The remote retrieval of information from, and related to, a specified metering installation and the provision of such information to the requesting party. The metering installation must be capable of providing the following information, as a minimum, when requested: | Local Network Service Provider financially responsible Market Participant |
|            | • the status of the switch used to effect the disconnection and reconnection services; | A person to whom a small customer has given its consent under clause 7.15.4(b)(3)(ii) |
|            | • the voltage as measured by the metering installation, with a date and time stamp for that reading; | |</p>
<table>
<thead>
<tr>
<th></th>
<th>• the current as measured by the metering installation, with a date and time stamp for that reading;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• the power (watts) as measured by the <em>metering installation</em>, with a date and <em>time stamp</em> for that reading;</td>
<td>Local Network Service Provider financially responsible Market Participant</td>
</tr>
<tr>
<td></td>
<td>• the supply frequency (Hertz) as measured by the <em>metering installation</em>, with a date and <em>time stamp</em> for that reading;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• the average <em>voltage</em> and current over a nominated <em>trading interval</em> for one or more nominated <em>trading intervals</em>; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• events that have been recorded in <em>meter log</em> (or logs) including recorded information in the tamper detection alarm, reverse energy flow alarm and <em>metering device temperature alarm</em>.</td>
<td></td>
</tr>
<tr>
<td>(f) advanced <em>meter reconfiguration service</em></td>
<td>The remote setting of the operational parameters of the <em>meter</em>. The operational parameters that must be capable of being set are, as a minimum, the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• the activation or deactivation of a data stream or data streams; and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• altering the method of presenting <em>energy data</em> and associated information on the <em>meter display</em>.</td>
<td></td>
</tr>
</tbody>
</table>
Schedule 7.6  Inspection and Testing Requirements

S7.6.1  General

(a) The Metering Coordinator 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 S7.6.1.1.

(b) The Metering Coordinator must ensure appropriate test certificates of the tests referred to in paragraph (a) are retained.

(c) The Metering Coordinator (or any other person arranging for testing) must ensure that testing of the metering installation is carried out:

(1) in accordance with clause 7.9.1 and this Schedule 7.6; or

(2) in accordance with an asset management strategy that defines an alternative testing practice (other than time based) determined by the Metering Coordinator 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 7.6 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 (±) for all metering equipment must be in accordance with Table S7.6.1.1.

Table S7.6.1.1  Maximum Allowable Level of Testing Uncertainty (±)

<table>
<thead>
<tr>
<th>Description</th>
<th>CTs ratio phase</th>
<th>VTs ratio Phase</th>
<th>Meters Wh</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 0.2</td>
<td>Class 0.5</td>
<td>Class 1.0</td>
</tr>
<tr>
<td></td>
<td>0.05%</td>
<td>0.1%</td>
<td>0.2%</td>
</tr>
<tr>
<td></td>
<td>0.07 crad</td>
<td>0.15 crad</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>0.05%</td>
<td>0.05 crad</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>0.1%</td>
<td>0.1 crad</td>
<td>0.2/cosφ%</td>
</tr>
<tr>
<td></td>
<td>0.1/cosφ%</td>
<td>0.1/cosφ%</td>
<td>0.2/cosφ%</td>
</tr>
<tr>
<td></td>
<td>0.2/cosφ%</td>
<td>0.2/cosφ%</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Where $\cos\phi$ is the power factor at the test point under evaluation.

**Table S7.6.1.2  Maximum Period Between Tests**

Unless the Metering Coordinator has developed an asset management strategy that defines practices that meet the intent of this Schedule 7.6 and is approved by AEMO, the maximum period between tests must be in accordance with this Table S7.6.1.2.

**Table S7.6.1.3  Period Between Inspections**

Unless the Metering Coordinator has developed an asset management strategy that meets the intent of this Schedule 7.6 and is approved by AEMO, the period between inspections must be in accordance with this Table S7.6.1.3.
S7.6.2 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 7.7 Embedded Network Managers

S7.7.1 General

(a) An Embedded Network Manager must be accredited and registered by AEMO.

(b) AEMO must establish a qualification process for Embedded Network Managers that enables accreditation and registration to be achieved in accordance with the requirements of this schedule 7.7.

(c) An Embedded Network Manager must ensure that embedded network management services are carried out in accordance with the Rules and procedures authorised under the Rules.
S7.7.2 Capabilities of Embedded Network Managers

*Embedded Network Managers* must be able to exhibit to the reasonable satisfaction of *AEMO* the following capabilities:

(a) detailed understanding of the *Rules* including this Chapter 7, and all procedures authorised under the *Rules* including the *ENM service level procedures*.

(b) detailed understanding of:

(1) the terms and conditions on which the *AER* grants exemptions under section 13 of the *National Electricity Law* to persons who engage in the activity of owning, controlling or operating *embedded networks*; and

(2) any related guidelines developed and issued by the *AER* under clause 2.5.1.

(c) detailed understanding of the participant role relationships and obligations that exist between *Embedded Network Managers*, *Metering Data Providers*, *Metering Providers*, financially responsible *Market Participants*, *Local Network Service Providers*, *AEMO* and *Metering Co-ordinators*.

(d) the establishment of a 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 *EN wiring information*;

(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*.

(e) understanding of the required logical interfaces necessary to support the provision of *embedded network management services* including the interfaces needed to:

(1) access *AEMO's systems*; and

(2) support the *metrology procedure*, *B2B Procedures*, *service level procedures*, *ENM service level procedures* and *Market Settlement and Transfer Solution Procedures*. 