National Electricity Rules

Indicative mark up of changes proposed to be made by the draft *National Electricity Amendment (Unlocking CER Benefits through flexible trading) Rule 2024*

Note:

This is an indicative version of the changes to the National Electricity Rules proposed to be made by the draft *National Electricity Amendment (Unlocking CER Benefits through flexible trading) Rule 2024*. It comprises extracts from the National Electricity Rules updated to take into account changes in rules made but not yet in force.

This document is provided for information purposes only. The actual draft amendments are set out in the draft *National Electricity Amendment (Unlocking CER Benefits through flexible trading) Rule 2024*.

The Australian Energy Market Commission does not guarantee the accuracy, reliability or completeness of this indicative mark-up of the National Electricity Rules.

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CHAPTER 2

2. Registered Participants and Registration

2.1A Obligation to register (non-network categories)

2.1A.3 Purchasing and selling electricity directly in the market

A person must not engage in the activity of selling or purchasing electricity directly in the *market* at any *connection point* or *secondary settlement point*, unless that person is registered by *AEMO* as a *Market Participant* and that *connection point* or *secondary settlement point* is classified as one of that person's *market connection points*.

2.1B Registration in relation to the sale or purchase of electricity and services

2.1B.2 Registration as an Integrated Resource Provider

(a) To be eligible to register as an *Integrated Resource Provider*, a person must do one or more of the following:

(1) satisfy the requirements of paragraph (b) for registration as an *Integrated Resource Provider* in respect of an *integrated resource system* or a *generating system*;

(2) satisfy *AEMO* that the person intends to classify, in accordance with clause 2.3.4(b), a *connection point* or *secondary settlement point* as one of its *market connection points*; or

(3) satisfy *AEMO* that the person intends to classify, in accordance with clause 2.2.8, a *small resource connection point* or a *small resource secondary settlement point* as one of its *market connection points*,

and except where the person is classifying only *non-market generating units* or *non-market bidirectional units*, the person must satisfy the requirements in rule 2.4 for registration as a *Market Participant*.

(b) To be eligible to register as an *Integrated Resource Provider* in respect of an *integrated resource system* or a *generating system*, a person must:

(1) in relation to an *integrated resource system*, obtain the approval of *AEMO* to classify in accordance with rule 2.2 any *bidirectional unit* that forms part of the *integrated resource system* that the person owns, operates or controls, or from which it otherwise sources electricity, as:

(i) a *scheduled bidirectional unit* or a *non-scheduled bidirectional unit* or other applicable scheduling classification or classifications; and

(ii) a *market bidirectional unit* or a *non-market bidirectional unit* or other applicable market participation classification;

(2) in relation to an *integrated resource system* or *generating system*, obtain the approval of *AEMO* to classify in accordance with rule 2.2 any *generating unit* that forms part of the *integrated resource system* or *generating system* that the person owns, operates or controls, or from which it otherwise sources electricity, as:

(i) a *scheduled generating unit*, a *semi-scheduled generating unit* or a *non-scheduled generating unit*; and

(ii) a *market generating unit* or a *non-market generating unit*;

(3) classify the relevant *bidirectional units* or *generating units* in accordance with *AEMO's* approval as referred to in subparagraph (1) or (2); and

(4) satisfy *AEMO* that the *integrated resource system* or *generating system* will be capable of meeting or exceeding its *performance standards*.

2.1B.4 Registration as a Customer

(a) To register as a *Customer*, a person must:

(1) satisfy the requirements in rule 2.4 for registration as a *Market Participant*; and

(2) satisfy *AEMO* (acting reasonably) that:

(i) the person intends to classify, in its capacity as a *Customer*, a *connection point* or *secondary settlement point* as one of its *market connection points*; or

(ii) registration is for the purpose of acting as a *RoLR*.

(b) A *Customer's* activities only relate to *connection points* or *secondary settlement points* it has classified (in its capacity as a *Customer*) as *market connection points* or its activities as a *RoLR* and only while it is also registered with *AEMO* as a *Customer*.

2.2 Classification of generating units and bidirectional units

2.2.4 Market generating units

(a) A *generating unit* must be classified as a *market generating unit* unless *AEMO* approves its classification as a *non-market generating unit* in accordance with clause 2.2.5.

(b) A *Generator* or an *Integrated Resource Provider* is taken to be a *Market Generator* only in so far as its activities relate to any *market generating units*.

(c) A *Market Generator* must sell all *sent out generation* from its *market generating unit* through the *spot market* and accept payments from *AEMO* for *sent out generation* in accordance with the provisions of Chapter 3.

Note

This paragraph is classified as a tier 1 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 *Market Generator* must purchase all electricity *supplied* through the *national grid* to the *connection point* for each of its *market generating units* from the *spot market* (other than any part of that electricity supplied to a *secondary settlement point* for which another *Market Participant* is

financially responsible) and make payments to *AEMO* for such electricity in accordance with the provisions of Chapter 3.

Note

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

2.2.5A Market bidirectional units

(a) A *bidirectional unit* must be classified as a *market bidirectional unit* unless *AEMO* approves its classification as a *non-market bidirectional unit* in accordance with clause 2.2.5B.

(b) An *Integrated Resource Provider* must sell all *sent out generation* from its *market bidirectional units* through the *spot market* and accept payments from *AEMO* for *sent out generation* from its *market bidirectional units* in accordance with the provisions of Chapter 3.

(c) An *Integrated Resource Provider* must purchase all electricity *supplied* through the *national grid* to the *connection point* for each of its *market bidirectional units* from the *spot market* (other than any part of that electricity supplied to a *secondary settlement point* for which another *Market Participant* is *financially responsible)* and make payments to *AEMO* for such electricity in accordance with the provisions of Chapter 3.

2.2.8 Small generating units and small bidirectional units

(a) Subject to paragraph (b), an *Integrated Resource Provider* may classify a *small resource connection point* as one of its *market connection points*.

(a1) Subject to paragraph (b), an *Integrated Resource Provider* may classify a *small resource secondary settlement point* within the premises of a *large customer* as one of its *market connection points*.

(b) A person must not classify a *small resource connection point* or a *small resource secondary settlement point* as a *market connection point* unless the person satisfies the requirements of the *participating jurisdiction* in which the *connection point* or *secondary settlement point* is situated so that (subject to compliance with the *Rules*) the person is permitted to purchase or sell electricity (as applicable) in the *spot market* in relation to that *connection point* or *secondary settlement point*.

(c) An *Integrated Resource Provider* is taken to be a *Small Resource Aggregator* only in so far as its activities relate to *small resource connection points* and *small resource secondary settlement points* classified as its *market connection points* under paragraph (a) or (a1)~~(b)~~.

(d) A *Small Resource Aggregator* must sell all *sent out generation* from its *market connection points* through the *spot market* and accept payments from *AEMO* for the electricity in accordance with Chapter 3.

(e) A *Small Resource Aggregator* must purchase all electricity supplied through the *national grid* to its *market connection points* (other than any part of that electricity supplied to a *secondary settlement point* for which another

Market Participant is *financially responsible*) from the *spot market* and make payments to *AEMO* for the electricity in accordance with Chapter 3.

2.3 Connection point, secondary settlement point and connected plant classifications

2.3.1A Jurisdictional requirements

(a) A person must not classify any *connection point* or *secondary settlement point* as a *market connection point* under this rule 2.3 unless the person satisfies the requirements of the *participating jurisdiction* in which the *connection point* or *secondary settlement point* is situated so that (subject to compliance with the *Rules*) the person is permitted to purchase or sell electricity (as applicable) in the *spot market* in relation to that *connection point* or *secondary settlement point*.

(b) A person must not classify any *connection point* or *secondary settlement point* as a *market connection point* under clause 2.3.4(b) or (i), unless the person has any authorisations or exemptions required by the legislation of a *participating jurisdiction* or by the *NERL* in relation to the sale of electricity to end users.

~~2.3.2 [Deleted]~~

2.3.2 When a large customer becomes a small customer

(a) This clause applies where:

(1) a *Market Participant* has classified a *secondary settlement point* within the premises of a person who was a *large customer* as one of its *market connection points*;

(2) the *Market Participant* is not also *financially responsible* for the *connection point* for the premises; and

(3) the person ceases to be classified as a *large customer*.

(b) Where this clause applies:

(1) the *Market Participant* must notify *AEMO* that the customer has ceased to be classified as a *large customer* as soon as practicable and in any event no later than 10 *business days* after becoming aware of the change; and

(2) the *Market Participant* must cease to classify the *secondary settlement point* as one of its *market connection points* from the time the notice is given.

Note:

For a *secondary settlement point* that is not classified as a *market settlement point*, subtractive metering is not used to calculate *settlements* and so the *financially responsible Market Participant* for the relevant *connection point* will be *financially responsible* for electricity *supplied* to or from the *secondary settlement point*.

~~2.3.3 [Deleted]~~

2.3.3 When a scheduled resource is established at premises

(a) This clause applies where:

(1) a *Market Participant* has classified a *secondary settlement point* within premises as one of its *market connection points*; and

(2) the premises ceases to satisfy any of the criteria in clause 7.2.6 for the establishment of a *secondary settlement point*.

(b) Where this clause applies, the *Market Participant* must cease to classify the *secondary settlement point* as one of its *market connection points* from the time the premises ceases to satisfy the relevant criterion in clause 7.2.6 or any later time approved by *AEMO*.

2.3.4 Market connection point classification

(a) A *connection point*:

(1) which *connects* any *market generating unit* to the *national grid*, is taken to be a *market connection point* of the *Market Participant* which has classified the *generating unit* as a *market generating unit*;

(2) which *connects* any *market bidirectional unit* to the *national grid*, is taken to be a *market connection point* of the *Market Participant* which has classified the *bidirectional unit* as a *market bidirectional unit*;

(3) which has been classified by an *Integrated Resource Provider* under clause 2.2.8(a), is a *market connection point* of the *Integrated Resource Provider* (in its capacity as a *Small Resource Aggregator*); or

(4) where the *network service connected* at that *connection point* is a *market network service*, is taken to be a *market connection point* of the *Market Participant* that has classified the *network service* as a *market network service*.

(a1) A *small resource secondary settlement point* which has been classified by an *Integrated Resource Provider* under clause 2.2.8(a1) is a *market connection point* of the *Integrated Resource Provider* (in its capacity as a *Small Resource Aggregator*).

(b) Subject to paragraph (c), if electricity *supplied* through the *national grid* to or from a *connection point* is purchased or sold by any person (**end user**), that *connection point* must be classified as a *market connection point* of:

(1) the end user (if registered as a *Customer* or an *Integrated Resource Provider*); or

(2) with the consent of the end user, a *Customer* or an *Integrated Resource Provider*.

(b1) Subject to paragraphs (b2), (b3) and (c), if electricity *supplied* through a *connection point* on the *national grid* to or from a *secondary settlement point* is purchased or sold by any person (**end user**), that *secondary settlement point* may be classified as a *market connection point* of:

(1) the end user (if registered as a *Customer* or an *Integrated Resource Provider*); or

(2) with the consent of the end user, a *Customer* or an *Integrated Resource Provider*.

(b2) A *secondary settlement point* within the premises of a *small customer* may only be classified as a *market connection point* of the *Market Participant* that is also *financially responsible* for the *connection point* for the premises.

(b3) A *secondary settlement point* cannot be classified as a *market connection point* if the *connection point* for the premises at which the *secondary settlement point* is situated is a *connection point* for a *scheduled resource*.

(c) ~~Paragraph (b) does~~ Paragraphs (b) and (b1) do not apply to any *connection point* or *secondary settlement point*:

(1) taken to be a *market connection point* of another *Market Participant* under paragraph (a) or (a1); or

(2) classified by a *Local Retailer* in accordance with paragraph (i).

(d) A *Customer* is taken to be a *Market Customer* only in so far as its activities relate to any *market connection point* it has classified under paragraph (b), (b1) or (i).

(e) An *Integrated Resource Provider* is taken to be a *Market Customer* only in so far as its activities relate to any *market connection point* it has classified under paragraph (b) or (b1).

(f) A *Market Customer* must purchase all electricity *supplied* to its *market connection points* from the *spot market* (other than any part of that electricity supplied to a *secondary settlement point* for which another *Market Participant* is *financially responsible*) and make payments to *AEMO* for the electricity in accordance with Chapter 3.

(g) A *Market Customer* must sell all *sent out generation* from its *market connection po~~ints~~* through the *spot market* and accept payments from *AEMO* for the electricity in accordance with Chapter 3.

(h) [**Deleted**]

(i) A *Customer* who is also a *Local Retailer* must classify a *connection point* in its *local area* as a *market connection point* if electricity *supplied* through the *national grid* to or from that *connection point* is purchased or sold by a *franchise customer*.

2.3.6 Wholesale demand response units

(a) If a *Demand Response Service Provider* in respect of a *qualifying load* wishes to use the *qualifying load* to provide *wholesale demand response* in accordance with the *Rules*, the *Demand Response Service Provider* must apply to *AEMO* for approval to classify the *qualifying load* as a *wholesale demand response unit*.

(b) An application under paragraph (a) must be in the form prescribed by *AEMO* and must:

(1) identify the *qualifying load*;

(2) specify the proposed *maximum responsive component* of the *wholesale demand response unit*; and

(3) specify the proposed *baseline methodology* and *baseline settings* to apply to the *wholesale demand response unit*.

(c) *AEMO* must, within 5 *business days* of receiving an application under paragraph (a), advise the applicant of any further information or clarification which is required in support of its application if, in *AEMO's* reasonable opinion, the application:

(1) is incomplete; or

(2) contains information upon which *AEMO* requires clarification.

(d) If the further information or clarification required pursuant to paragraph (c) is not provided to *AEMO's* satisfaction within 15 *business days* of the request, *AEMO* may, on notice to the *Demand Response Service Provider* at any time after expiry of that period, elect to treat the application as withdrawn and the *Demand Response Service Provider* will be deemed to have withdrawn the application.

(e) *AEMO* must, subject to paragraph (f), approve the classification request under paragraph (a) if *AEMO* is reasonably satisfied that:

(1) the request is made in respect of a *qualifying load*;

(2) the *qualifying load* is able to be used to provide *wholesale demand response* in accordance with the *Rules*;

(3) the *qualifying load* is capable of providing a quantity of *wholesale demand response* at least equal to the *maximum responsive component*;

(4) the *Demand Response Service Provider* has adequate communications and/or telemetry in place to support the issuing of *dispatch instructions* in respect of the *qualifying load*;

(5) the *baseline methodology*, when applied to the *qualifying load* and using the proposed *baseline settings* and historical *metering data* for the *qualifying load*:

(i) produces a *baseline* that satisfies the *baseline methodology metrics*; and

(ii) otherwise qualifies for application to the *wholesale demand response unit* having regard to any criteria in the *wholesale demand response guidelines*;

(6) the *Demand Response Service Provider* has submitted data in accordance with schedule 3.1; and

(7) the *qualifying load* satisfies each other requirement in the *wholesale demand response guidelines* for classification as a *wholesale demand response unit*.

(f) *AEMO* must not give approval to a person under paragraph (e) in respect of a *qualifying load* that is classified as an *ancillary service unit* by a different person.

(g) If *AEMO* approves the classification of a *qualifying load* as a *wholesale demand response unit*, *AEMO* may impose on the relevant *Demand Response Service Provider* such terms and conditions as *AEMO* considers necessary to ensure that the provisions of the *Rules* applying to *wholesale demand response* can be met.

(h) A *Demand Response Service Provider* must comply with any terms and conditions imposed by *AEMO* under paragraph (g) in respect of its *wholesale demand response unit*.

(i) [**Deleted**]

(j) A *Demand Response Service Provider* is not entitled to receive payment from *AEMO* for *wholesale demand response* except where the *wholesale demand response* is provided by a *wholesale demand response unit* in accordance with Chapter 3 or pursuant to a *clause 4.8.9 instruction*.

(k) A *Demand Response Service Provider* must notify *AEMO* if any of its *wholesale demand response units* ceases to be a *qualifying load* as soon as practicable and in any event no later than 10 *business days* after becoming aware that the *wholesale demand response unit* ceases to be a *qualifying load*.

(l) Where a *Demand Response Service Provider* gives *AEMO* a notice under paragraph (k) in respect of a *wholesale demand response unit*, the *wholesale demand response unit* ceases to be classified as a *wholesale demand response unit* from the time the notice is given.

(m) In this Chapter:

(1) a *connection point* is a *qualifying load* if:

(i) the *connection point* comprises a single *connection point* or a *parent connection point* in respect of all its associated *child connection points* that are not *market connection points*;

(ii) if the *connection point* is a *child connection point*, it is also a *market connection point*;

(iii) the *connection point* is not a *small customer load*;

(iv) the *connection point* is not a *market connection point* for a *scheduled load*;

(v) the *Demand Response Service Provider* has the consent of the *retail customer* at the *connection point* to provide *wholesale demand response* by means of that *connection point*;

(vi) the *Demand Response Service Provider* has arrangements for the provision of *wholesale demand response* by means of that *connection point*; ~~and~~

(vii) the *connection point* has a type 1, 2, 3, or 4 *metering installation*; and

(viii) if there is a *secondary settlement point* within the premises *connected* at the *connection point*, the *secondary settlement point* is not classified as a *market connection point* of a *Market Participant*; and

(2) a *connection point* is a *small customer load* if a *retail customer* at the *connection point,* or any *connection point* associated with the *connection point* (including any *child connection point*):

(i) is or would be a *small customer* in relation to premises delivered electrical power at the *connection point*; and

(ii) the *retail customer* has not entered into an agreement with its retailer in accordance with rule 5(2)(a) of the *National Energy Retail Rules* to aggregate the premises referred to in subparagraph (2)(i) with other premises.

Note

Only a business customer within the meaning of the *National Energy Retail Law* can enter into an agreement with its *retailer* in accordance with rule 5(2)(a) of the *National Energy Retail Rules*.

2.3C SAPS Resource Provider

2.3C.2 Market SAPS Resource Provider

(a) A *Market SAPS Resource Provider* must sell all *sent out generation* from its *market connection points* through the *market* and accept payments from *AEMO* for ~~all~~ the *sent out generation* at the price applicable at the *connection point* for which it is *financially responsible* as determined for each *trading interval* in accordance with the provisions of Chapter 3.

(b) A *Market SAPS Resource Provider* must purchase all electricity *supplied* to its *market connection points* ~~through the *national grid* to the *Market SAPS Resource Provider* at a *connection point* for which it is *financially responsible*~~ from the *market* and must make payments to *AEMO* for such electricity ~~*supplied* at the *connection point*~~ as determined for each *trading interval* in accordance with the provisions of Chapter 3.

2.3D Ancillary Service Units and Ancillary Service Providers

2.3D.1 Classification of ancillary service units

(a) Subject to paragraph (b), if a:

(1) *Market Participant* in respect of *plant* ~~*connected*~~ at a *market connection point* for which it is the *financially responsible Market Participant*; or

(2) *Demand Response Service Provider* in respect of *plant* ~~*connected*~~ at a *market connection point*,

wishes to use the *plant* to provide *market ancillary services* in accordance with Chapter 3, the *Market Participant* must apply to *AEMO* for approval to classify the relevant *plant* as an *ancillary service unit*.

(b) *Plant* is not eligible for classification by a person as an *ancillary service unit* where:

(1) the *plant* is *connected* at a *connection point* that a different person has classified as a *wholesale demand response unit*;

(2) the *plant* is ~~*connected*~~ at a *market connection point* at which a different person has classified an *ancillary service unit*; or

(3) the person is a *Demand Response Service Provider* and the *plant* is a *scheduled load*.

(c) An application under paragraph (a) must be in the form prescribed by *AEMO* and must:

(1) specify the *market ancillary services* which the applicant wishes to provide using the relevant *plant*;

(2) identify the relevant *plant* at the *connection point* to be used by the applicant to provide *market ancillary services*; and

(3) demonstrate how the relevant *plant* identified in subparagraph (2) has the required capability to be used to provide *market ancillary services* in accordance with the *market ancillary service specification* and the other matters in paragraph (f).

(d) *AEMO* must, within 5 *business days* of receiving an application under paragraph (a), advise the applicant of any further information or clarification which is required in support of its application if, in *AEMO's* reasonable opinion, the application:

(1) is incomplete; or

(2) contains information upon which *AEMO* requires clarification.

(e) If the applicant does not provide further information or clarification required pursuant to paragraph (d) to *AEMO's* satisfaction within 15 *business days* of the request, *AEMO* may, on notice to the applicant at any time after expiry of that period, elect to treat the application as withdrawn and the applicant will be taken to have withdrawn the application.

(f) If *AEMO* is reasonably satisfied that:

(1) the relevant *plant* is able to be used by the applicant to provide the *market ancillary services* referred to in the application in accordance with this clause 2.3D.1 and the *market ancillary service specification*;

(2) the applicant has adequate communication and/or telemetry to support the issuing of *dispatch instructions* and the audit of responses; and

(3) if there is a *retail customer* or *SRA customer* at the relevant *market connection point*~~*connection point*~~, the applicant has an arrangement with that *retail customer* or *SRA customer* for the supply of *market ancillary services*,

AEMO must approve the classification of the *ancillary service unit* in respect of the particular *market ancillary services*.

(g) If *AEMO* approves the classification of *plant* as an *ancillary service unit*, *AEMO* may impose on the relevant applicant such terms and conditions as *AEMO* considers necessary to ensure that the provisions of the *Rules* applying to *market ancillary services* can be met.

(h) A *Market Participant* is taken to be an *Ancillary Service Provider* only in so far as its activities relate to *plant* it has classified as an *ancillary service unit*.

2.4A Metering Coordinator

2.4A.1 Registration as a Metering Coordinator

(a) A *Metering Coordinator* is a person so registered by *AEMO* who engages in the coordination and provision of metering services at a *connection point* or *secondary settlement point*.

(b) *AEMO* may exempt a *Transmission Network Service Provider* from satisfying one or more registration requirements when registering as a *Metering Coordinator* for *transmission network connection points* on its *transmission network*, subject to such conditions as *AEMO* deems appropriate, where (in *AEMO*'s reasonable opinion) the exemption is not inconsistent with the *national electricity objective*.

(c) Subject to clause 2.4A.2(b), *AEMO* must not register a *Market Customer* as a *Metering Coordinator*.

(d) A person who is registered with *AEMO* as a *Metering Coordinator* is:

(1) except as specified in subparagraph (2), a *Registered Participant* for the purposes of the *Rules*; and

(2) not a *Registered Participant* for the purposes of Part A of Chapter 5 of the *Rules*, unless the person is also registered in another category of *Registered Participant*.

2.4A.2 Eligibility

(a) To be eligible for registration as a *Metering Coordinator*, a person must:

(1) subject to paragraph (b), not be a *Market Customer*;

(2) satisfy *AEMO* that it is complying with and will comply with the *Rules* and the procedures authorised under the *Rules*;

(3) in respect of a *Metering Coordinator* who is appointed, or is proposed to be appointed, as *Metering Coordinator* at a *small customer metering installation*, have appropriate processes in place to determine that a person seeking access to a service listed in the *minimum services specification* is an *access party* in respect of that service;

(4) subject to paragraph (c), ensure that there is an appropriate security control management strategy 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*;

(5) have insurance as considered appropriate by *AEMO*; and

(6) pay the prescribed fees determined in accordance with rule 2.11.

(b) Clause 2.4A.1(c) and subparagraph (a)(1) do not apply to:

(1) a person who is only appointed, or is proposed to be only appointed, as *Metering Coordinator* in respect of one or more:

(i) *connection points* or proposed *connection points* on a *transmission network*; or

(ii) *secondary settlement points* or proposed *secondary settlement points* associated with such a *connection point*.

(2) a *Generator* or *Integrated Resource Provider* who is only appointed, or is proposed to be only appointed, as *Metering Coordinator* in respect of one or more:

(i) *connection points* or proposed *connection points* that *connect* a *Generator's* or *Integrated Resource Provider's generating unit* or *bidirectional unit* to a *distribution network* (excluding, to avoid doubt, any *small resource connection point* or *small resource secondary settlement point* classified by an *Integrated Resource Provider* in its capacity as a *Small Resource Aggregator*)~~.~~; or

(ii) *secondary settlement points* or proposed *secondary settlement points* associated with such a *connection point.*

(c) Subparagraph (a)(4) does not apply to a *Generator* or *Integrated Resource Provider* who is only appointed, or is proposed to be only appointed, as *Metering Coordinator* in respect of one or more *connection points* or proposed *connection points* that *connect* a *Generator's* or *Integrated Resource Provider's generating unit* or *bidirectional unit* to a *distribution network*, or one or more *secondary settlement points* or proposed *secondary settlement points* associated with such a *connection point*.

2.10 Ceasing to be a Registered Participant

2.10.1 Notification of intention

(a) A person:

(1) may notify *AEMO* in writing that it wishes to cease to be registered in any category of *Registered Participant* or that it wishes to terminate any of its classifications of *generating units* or *bidirectional units* (other than a *generating unit* or *bidirectional unit* specified in subparagraph (2)), other *plant* or *network services*; and

(2) who is a *Scheduled Generator*, *Semi-Scheduled Generator* or *Scheduled Integrated Resource Provider* must notify *AEMO* in writing if it wishes to terminate any of its classifications of *generating units* or *bidirectional units*.

(b) A person is not entitled to notify *AEMO* that it wishes to cease to be registered in relation to any category for which that person is required to be registered under the *NEL* or under the *Rules*.

(c) In any notice given under subparagraph (a)(1), the *Registered Participant* must specify a date upon which it wishes to cease to be so registered or for an existing classification to be terminated and, in the case of a *Market Participant*, the date upon which it will cease to *supply* or acquire electricity

or trade directly in the *market* and whether entirely or in relation to one or more *connection points*, *secondary settlement points* or *market network services*.

(c1) In any notice given under subparagraph (a)(2), the *Registered Participant*:

(1) must specify a date (the *closure date*) by which:

(i) the classification of the *generating unit* or *bidirectional unit* will be terminated; and

(ii) it will cease to *supply* or acquire electricity or trade directly in the *market* whether entirely or in relation to one or more *connection points* or *secondary settlement points*; and

(2) must provide an updated notice to *AEMO* under subparagraph (a)(2) of any amendments to the *closure date*.

Note

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

(c2) A *Scheduled Generator*, *Semi-Scheduled Generator* or *Scheduled Integrated Resource Provider* must not specify a *closure date* for a *generating unit* or *bidirectional unit* that is earlier than 42 months from the date of the notice given under subparagraph (a)(2), except where the relevant *Generator* or *Integrated Resource Provider* has applied for, and is granted an exemption by the *AER* under paragraph (c4).

Note

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

(c3) A *Scheduled Generator*, *Semi-Scheduled Generator* or *Scheduled Integrated Resource Provider* giving a notice to *AEMO* under subparagraph (c1)(2) (**amended notice**):

(1) may specify an amended *closure date* that is later than the most recent *closure date* provided to *AEMO* under paragraph (a)(2); and

(2) must not specify an amended *closure date* that is earlier than the most recent *closure date* provided to *AEMO* under paragraph (a)(2) except where:

(i) the amended *closure date* is no earlier than 42 months from the date the amended notice is provided to *AEMO*; or

(ii) the *Generator* or *Integrated Resource Provider* has applied for, and is granted, an exemption by the *AER* under paragraph (c4).

Note

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

(c4) The *AER* may, in accordance with guidelines issued from time to time by the *AER*, exempt any *Scheduled Generator*, *Semi-Scheduled Generator* or

Scheduled Integrated Resource Provider from the requirement to provide the *closure date* in accordance with paragraph (c2) and (c3).

(c5) The *AER*, in accordance with the *Rules consultation procedures*:

(1) must develop and *publish* guidelines referred to in paragraph (c4) that include:

(i) the information to be provided by a *Generator* or *Integrated Resource Provider* to the *AER* when requesting an exemption; and

(ii) procedures for handling requests for exemption received from *Generators* or *Integrated Resource Providers*; and

(2) may amend these guidelines from time to time.

(c6) The *AER* may make minor and administrative amendments to the guidelines under clause (c5) without complying with the *Rules consultation procedures*.

(d) *AEMO* may reject a notice from a *Market Customer* that it wishes to terminate its classification of a *connection point* as one of its *market connection points* or otherwise cease to be a *Market Customer* in relation to any of its *market connection points* unless *AEMO* is satisfied that:

(1) another person has classified the *connection point* as one of its *market connection points* and is registered as a *Market Customer*;

(2) the relevant *Local Retailer* has agreed or is otherwise required by laws of the relevant *participating jurisdiction* to assume responsibility for payments to *AEMO* for electricity *supplied* to that *connection point*; or

(3) the *load* at that *connection point* will be *disconnected* on and from the date specified and, taking into consideration any relevant guidelines and procedures specified by the relevant *participating jurisdiction* to *AEMO*, that *disconnection* is not inappropriate.

(d1) *AEMO* may reject a notice from a *Small Resource Aggregator* that it wishes to terminate its classification of a *small resource connection point* as one of its *market connection points*, unless *AEMO* is satisfied that:

(1) another person has classified the *small resource connection point* as one of its *market connection points*;

(2) the relevant *Local Retailer* has agreed or is otherwise required by laws of the relevant *participating jurisdiction* to assume responsibility for payments with *AEMO* for electricity *supplied* to or from the *small resource connection point*; or

(3) the *small generating unit* or *small bidirectional unit* at that *small resource connection point* will be *disconnected* on and from the date specified in the notice, and, after having regard to any relevant guidelines and procedures specified by the relevant *participating jurisdictions* to *AEMO*, *disconnection* is appropriate.

(d2) *AEMO* may reject a notice from a *Market SAPS Resource Provider* which states that it wishes to terminate its classification of a *generating unit* as a *market generating unit*, or otherwise cease to be a *Market SAPS Resource*

Provider in relation to any of its *market generating units*, unless *AEMO* is satisfied that:

(1) another person has classified the relevant *generating unit* as one of its *market generating units* and that person is registered as a *SAPS Resource Provider* and a *Market SAPS Resource Provider*;

(2) the relevant *Local Retailer* has agreed or is otherwise required by laws of the relevant *participating jurisdiction* to assume responsibility for payments with *AEMO* for electricity *supplied* to the *connection points* of the *market generating unit*; or

(3) the *market generating unit* at that *connection point* will be *disconnected* on and from the date specified in the notice, and, after having regard to any relevant guidelines and procedures specified by the relevant *participating jurisdictions* to *AEMO*, *disconnection* is appropriate.

(e) Upon receiving a notice which complies with clause 2.10.1 from a person who wishes to cease to be registered in any category of *Market Participant*, or to terminate the classification of any of its *market connection points*, *market generating units*, *market bidirectional units*, or *market network services*, *AEMO* must deliver a notice to the *AER* and the *AEMC* and notify all *Registered Participants* stating that:

(1) *AEMO* has received a notice under clause 2.10.1(a); and

(2) the person who gave the notice has stated that, from the date specified in the notice, the person intends to cease *supplying* or acquiring electricity or trading directly in the *market* and whether entirely or in relation to certain *connection points* or *secondary settlement points* or *market network services*.

(f) If a *Market Customer* that is a *retailer* gives a notice under this clause, *AEMO* must, before deciding whether to reject the notice under paragraph (d), consult with the *AER*.

2.12 Interpretation of references to various entities

(a) A person may register in more than one of the categories of *Registered Participant*.

(b) Notwithstanding anything else in the *Rules*, a reference to:

(1) a "*Generator*" applies to a person registered as a *Generator* only in so far as it is applicable to matters connected with the person's *scheduled generating units*, *semi-scheduled generating units*, *non-scheduled generating units*, *market generating units* or *non-market generating units*;

(1A) a "*Small Resource Aggregator*" applies to a person registered as an *Integrated Resource Provider* only in so far as it is applicable to matters connected with the person's *small resource connection points* or *small resource secondary settlement points* classified under clause 2.2.8(a) or (a1);

(1B) a "*Demand Response Service Provider*" applies to a person registered as a *Demand Response Service Provider* only in so far as it is applicable to matters connected with the person's *ancillary service units* or *wholesale demand response units*;

(1C) a "*SAPS Resource Provider*" applies to a person registered as a "*SAPS Resource Provider*" only in so far as it is applicable to matters connected with the person's *generating units* or *market generating units* that are (in each case) *connected* to a *stand-alone distribution system* in a *regulated SAPS*;

(2) a "*Scheduled Generator*", "*Semi-Scheduled Generator*", "*Non-Scheduled Generator*", "*Market Generator*" or "*Non-Market Generator*" applies to a person only in so far as it is applicable to matters connected with the person's *scheduled generating units*, *semi-scheduled generating units*, *non-scheduled generating units*, *market generating units* or *non-market generating units* respectively;

(2A) a "*Scheduled Integrated Resource Provider*", "*Non-Scheduled Integrated Resource Provider*" or "*Non-Market Integrated Resource Provider*" applies to a person only in so far as it is applicable to matters connected with the person's *scheduled bidirectional units*, *non-scheduled bidirectional units* or *non-market bidirectional units*, respectively;

(3) a "*Customer*" applies to a person registered as a *Customer* only in so far as it is applicable to matters connected with *connection points* or *secondary settlement points* the person has classified (in its capacity as a *Customer*) as *market connection points* or its activities as a *RoLR*;

(3A) an "*Ancillary Service Provider*" applies to a person only in so far as it is applicable to matters connected with the person's *ancillary service units*;

(4) a "*Market Customer*" applies to a *Customer* or *Integrated Resource Provider* only in so far as it is applicable to matters connected with the person's *market connection points* classified under clause 2.3.4(b) or (i);

(4A) a "*Trader*" applies to a person only in so far as it is applicable to matters connected with the person's activities as a *Trader*;

(4B) a "*Reallocator*" applies to a person only in so far as it is applicable to matters connected with the person's activities as a *Reallocator*;

(5) subject to clause 2.5.1A(f), a "*Network Service Provider*" applies to a person registered as a *Network Service Provider* only in so far as it is applicable to matters connected with the person's *network services*, including *market network services* and *scheduled network services*;

(6) a "*Market Network Service Provider*" or "*Scheduled Network Service Provider*" applies to a person only in so far as it is applicable to matters connected with the person's *market network services* or *scheduled network services* respectively;

(7) a "*Market Participant*" applies to a person who is a *Market Participant* and:

(i) where the person is a *Market Generator*, *Integrated Resource Provider*, *Market Customer* or *Demand Response Service Provider*, in so far as it is applicable to its *market connection points* or *plant* it has classified under this Chapter;

(i1) [**Deleted**]

(i2) [**Deleted**]

(i3) where that person is registered as a *Market SAPS Resource Provider*, in so far as it is applicable to matters connected with the person's *market generating units* that are *connected* to a *stand-alone distribution system* in a *regulated SAPS*; and

(ii) [**Deleted**]

(iii) where that person is registered as a *Market Network Service Provider*, in so far as it is applicable to matters connected with the person's *market network services*; and

(iv) where that person is registered in any category of *Market Participant* additional to a *Market Generator* and/or a *Market Customer* and/or a *Market Network Service Provider*, to the extent to which the reference would otherwise apply to the person if it were not taken to be a *Market Generator*, *Integrated Resource Provider, Market Customer* or *Market Network Service Provider*; and

(8) a "*Registered Participant*" applies to a person who is registered under Chapter 2 and:

(i) where the person is registered as a *Generator*, *Integrated Resource Provider*, *Customer* or *Demand Response Service Provider*, in so far as it is applicable to its *market connection points* or *plant* it has classified under this Chapter; and

(ii) [**Deleted**]

(iii) where that person is registered in any other *Registered Participant* category, to the extent to which the reference would apply to the person if it were not registered in another *Registered Participant* category.

(c) In rule 2.12, "*matter*" includes any assets, liabilities, acts, omissions or operations (whether past, present or future).

CHAPTER 3

3. Market Rules

3.13 Market Information

3.13.12 NMI Standing Data

Note:

Clause 3.13.12 only applies in a participating jurisdiction that has not applied the *NERL* as a law of that jurisdiction. In a participating jurisdiction that has applied the *NERL*, the scheme developed by *AEMO* under clause 3.13.12A supersedes clause 3.13.12 and clause 3.13.12 is revoked (see clause 3.13.12A(d)).

(a) The authority responsible for administering the *jurisdictional electricity legislation* in for each *participating jurisdiction* may provide *AEMO* with a *Jurisdictional NMI Standing Data schedule* setting out the categories of *NMI Standing Data* which:

(1) *Registered Participants* are required by the *participating jurisdiction's* legislation or licensing requirements to provide to *AEMO* in relation to ~~*connection points*~~ *market connection points* in that *participating jurisdiction*; and

(2) *AEMO* must make available to *Market Customers*, a class of *Market Customers* or *Small Resource Aggregators* on request pursuant to its disclosure obligations under clauses 3.13.12(d) and (e).

Any such schedule must contain the matters set out in clause 3.13.12(c).

(b) A responsible authority may from time to time amend the *Jurisdictional NMI Standing Data schedule* in respect of the relevant *participating jurisdiction*, which amendments must be consistent with the matters set out in clause 3.13.12(c), and must promptly provide the amended schedule to *AEMO*.

(c) A valid *Jurisdictional NMI Standing Data schedule* must contain the following items:

(1) a specification of the categories of *NMI Standing Data* which *AEMO* must provide to *Market Customers*, a specified class of *Market Customers* or *Small Resource Aggregators*, on request, pursuant to its disclosure obligations under clauses 3.13.12(d) and (e), in respect of ~~*connection points*~~*market connection points* in the relevant *participating jurisdiction*;

(2) details of the *Jurisdictional NMI Standing Data suppliers*, including which *Registered Participants* are required to provide that data in respect of particular ~~*connection points*~~*market connection points* within that *participating jurisdiction*;

(3) the timetable which the relevant *participating jurisdiction* will implement to ensure *Jurisdictional NMI Standing Data suppliers* supply *NMI Standing Data* in respect of ~~*connection points*~~*market connection points* in that *participating jurisdiction* to *AEMO*;

(4) the criteria which *AEMO* must use to identify whether *AEMO* must disclose *NMI Standing Data* for ~~*connection points*~~*market connection*

points in that *participating jurisdiction* to particular *Market Customers* or *Small Resource Aggregators*, pursuant to its disclosure obligations under clauses 3.13.12(d) and (e);

(5) the purposes connected with the facilitation of the wholesale electricity *market* for which the *Market Customer* or *Small Resource Aggregator* may use *NMI Standing Data*;

(6) any additional information or criteria as may be determined by the authority responsible for administering the *jurisdictional electricity legislation* as necessary or appropriate in relation to the obligations of *Jurisdictional NMI Standing Data suppliers* and the release by *AEMO* of *NMI Standing Data* for ~~*connection points*~~*market connection points* in that *participating jurisdiction*.

(d) *AEMO* must:

(1) *publish* the *Jurisdictional NMI Standing Data schedules* and any amendments to those schedules provided to it by the responsible authorities under clauses 3.13.12(a) and (b); and

(2) subject to clause 3.13.12(e), make available to *Market Customers* and *Small Resource Aggregators* on request *NMI Standing Data* within the relevant categories in respect of ~~*connection points*~~ *market connection points* in a *participating jurisdiction* described in the *Jurisdictional NMI Standing Data schedule* for that *participating jurisdiction*.

(e) *AEMO* must only provide *NMI Standing Data* under this clause 3.13.12 to a *Market Customer* or *Small Resource Aggregator*:

(1) that is a *Market Customer*, a member of a class of *Market Customers* or a *Small Resource Aggregator* fitting the criteria stated in the relevant *Jurisdictional NMI Standing Data schedule* as being entitled to receive that data;

(2) in accordance with the relevant valid *Jurisdictional NMI Standing Data schedule*; and

(3) for the purposes described in clause 3.13.12(g).

(f) Each *Registered Participant* which is a *Jurisdictional NMI Standing Data supplier* must provide the *NMI Standing Data* to *AEMO* which it is required to provide in accordance with the relevant *Jurisdictional NMI Standing Data schedule*, if any such *Jurisdictional NMI Standing Data schedule* has been provided to *AEMO* under clause 3.13.12(a):

(1) at no charge and in the format reasonably required by *AEMO*; and

(2) after having first done whatever may be required or otherwise necessary under any applicable privacy legislation (including if appropriate making relevant disclosures or obtaining relevant consents from end-use customers) taking into account that *AEMO* will use and disclose the *NMI Standing Data* in accordance with the *Rules*.

Note

This paragraph is classified as a tier 2 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) A *Market Customer* or *Small Resource Aggregator* must only use *NMI Standing Data* provided to it by *AEMO* under this clause 3.13.12 for the purposes permitted by the relevant *Jurisdictional NMI Standing Data schedule*.

Note

This paragraph is classified as a tier 1 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) Where a responsible authority has provided *AEMO* with a *Jurisdictional NMI Standing Data schedule* for the relevant *participating jurisdiction* and a *Registered Participant* which is a *Jurisdictional NMI Standing Data supplier* fails to provide *AEMO* with *NMI Standing Data* in accordance with clause 3.13.12(f) and *AEMO* becomes aware of that failure, then:

(1) *AEMO* must advise the *Registered Participant* that, in its opinion, the *Registered Participant* is failing to comply with clause 3.13.12(f);

(2) if the *Registered Participant* fails to provide *AEMO* with the *NMI Standing Data* within 5 *business days* of the notice provided under clause 3.13.12(h)(1), *AEMO* must notify the *AER* and the relevant responsible authority of the failure and the failure by the *Registered Participant* to provide the *NMI Standing Data* is to be dealt with by the responsible authority under the relevant *participating jurisdiction's* legislation or licensing requirements unless the responsible authority notifies *AEMO* otherwise in accordance with clause 3.13.12(h)(3); and

(3) if, after receiving a notice from *AEMO* under clause 3.13.12(h)(2), the responsible authority notifies *AEMO* that the relevant *participating jurisdiction's* legislation or licensing requirements do not contain a regime which empowers the responsible authority to compel the *Registered Participant* to provide the *NMI Standing Data* to *AEMO*, *AEMO* must notify the *AER* of the failure by the *Registered Participant* to provide the *NMI Standing Data* under clause 3.13.12(f).

(i) Where a responsible authority has provided *AEMO* with a *Jurisdictional NMI Standing Data schedule* for the relevant *participating jurisdiction* and a *Market Customer* or *Small Resource Aggregator*, that has been provided with *NMI Standing Data* by *AEMO* under clause 3.13.12(d) in accordance with that schedule, fails to use that *NMI Standing Data* in accordance with clause 3.13.12(g), and *AEMO* becomes aware of that failure, then:

(1) *AEMO* must advise the *Market Customer* or *Small Resource Aggregator* that, in its opinion, the relevant *Market Participant* is failing to comply with clause 3.13.12(g);

(2) if the *Market Customer* or *Small Resource Aggregator* does not remedy the failure within 5 *business days* of the notice provided under clause 3.13.12(i)(1), *AEMO* must notify the relevant responsible authority of the failure and the failure by the *Market Customer* or *Small Resource Aggregator* to use the *NMI Standing Data* in accordance with this clause 3.13.12 is to be dealt with by the responsible authority under the relevant *participating jurisdiction's*

legislation or licensing requirements unless the responsible authority notifies *AEMO* otherwise in accordance with clause 3.13.12(i)(3); and

(3) if, after receiving a notice from *AEMO* under clause 3.13.12(i)(2), the responsible authority notifies *AEMO* that the relevant *participating jurisdiction's* legislation or licensing requirements do not contain a regime which empowers the responsible authority to regulate the use of the *NMI Standing Data* by a *Market Customer* or *Small Resource Aggregator*, *AEMO* must notify the *AER* of the failure by the *Market Customer* or *Small Resource Aggregator* to use the *NMI Standing Data* in accordance with clause 3.13.12(g).

(j) *AEMO* must if requested by a responsible authority:

(1) develop a regime for monitoring and reporting to the responsible authority on requests received by *AEMO* to provide *NMI Standing Data* to *Market Customers* and *Small Resource Aggregators* for *connections points* in the relevant *participating jurisdiction*, in consultation with the responsible authority; and

(2) provide information to the responsible authority in accordance with the monitoring and reporting regime developed under this clause 3.13.12(j).

(k) Nothing in this clause 3.13.12:

(1) requires *AEMO* to make available *NMI Standing Data* if that *NMI Standing Data* has not been provided to *AEMO*;

(2) requires *AEMO* to make available *NMI Standing Data* where the collection, use or disclosure of that information by *AEMO* would breach applicable privacy laws;

(3) precludes *AEMO* from providing *NMI Standing Data* to a *Registered Participant* where the provision of that information is required to give effect to other provisions of the *Rules*;

(4) precludes *AEMO* from disclosing *confidential information* in the circumstances in which the disclosure of *confidential information* is permitted under the *NEL* or the *Rules*; and

(5) requires *AEMO* to provide information which its software systems cannot provide without modification.

3.15 Settlements

3.15.3 Connection point and virtual transmission node responsibility

(a) For each *market connection point* there is one person that is *financially responsible* ~~for that *connection point*~~. The person that is *financially responsible* for ~~such~~ a *market connection point*~~*connection point*~~ is:

(1) the *Market Participant* which has classified the *connection point* or *secondary settlement point* as a *market connection point*;

(2) the *Market Participant* which has classified the *generating unit connected* at that *connection point* as a *market generating unit*;

(3) the *Market Participant* which has classified the *network service connected* at that *connection point* as a *market network service*; or

(4) the *Market Participant* which has classified the *bidirectional unit connected* at that *connection point* as a *market bidirectional unit*.

(b) No person is *financially responsible* for a *virtual transmission node* or a *connection point* which *connects* a *local area* to another part of the *power system*.

(c) Any difference between:

(1) the *energy* flow *metered* at a *transmission network connection point* that is not a *market connection point*; and

(2) the aggregate *loss factor*-adjusted *metered energy* amounts for all *market connection points* assigned to that *transmission network connection point*,

is to be determined and allocated in accordance with clause 3.15.4 and 3.15.5.

3.15.4 Adjusted gross energy amounts – connection points

(a) For each *market connection point*, the *adjusted gross energy* amount for a *trading interval* is calculated by *AEMO* by applying the following formula:

AGE = ACE + ASOE

where:

AGE is the *adjusted gross energy* amount to be determined;

ACE is the *adjusted consumed energy* for the *market connection point* and *trading interval* calculated by *AEMO* by applying the formula in subparagraph (b)(1) or (b)(2) as applicable to the *market connection point*; and

ASOE is the *adjusted sent out energy* for the *market connection point* and *trading interval* calculated by *AEMO* by applying the formula in subparagraph (c)(1) or (c)(2) as applicable to the *market connection point.*

(b) The *adjusted consumed energy* or ACE for a *market connection point* for a *trading interval* is calculated by *AEMO* as follows:

(1) for a *market connection point* that is a *transmission network connection point*, ACE is equal to ME-, where ME- has the meaning in paragraph (d); and

(2) for a *market connection point* ~~*connection point*~~ that is not a *transmission network connection point*:

ACE = (ME- × DLF) + UFEA

where:

ACE is the *adjusted consumed energy* amount to be determined;

ME- has the meaning given in paragraph (d);

DLF is the *distribution loss factor* applicable at the *market connection point*;

UFEA is the share of unaccounted for *energy* allocated to that *market connection point* under clause 3.15.5.

(c) The *adjusted sent out energy* or ASOE for a *market connection point* for a *trading interval* is calculated by *AEMO* as follows:

(1) for a *market connection point* that is a *transmission network connection point*, ASOE is equal to ME+, where ME+ has the meaning given in paragraph (e); and

(2) for a *market connection point* that is not a *transmission network connection point*:

ASOE = (ME+ × DLF)

where:

ASOE is the *adjusted sent out energy* amount to be determined;

ME+ has the meaning given in paragraph (e); and

DLF is the *distribution loss factor* applicable at the *market connection point*.

(d) ME- means, for a ~~*connection point*~~*market connection point* for a *trading interval*, the amount of electrical *energy*, expressed as a negative value in MWh, flowing at the ~~*connection point*~~*market connection point* in the *trading interval*, as recorded in the *metering data* in respect of that ~~*connection point*~~*market connection point* and that *trading interval,* where the flow is away from the *transmission network connection point* to which the ~~*connection point*~~*market connection point* is assigned.

(e) ME+ means, for a ~~*connection point*~~*market connection point* for a *trading interval*, the amount of electrical *energy*, expressed as a positive value in MWh, flowing at the ~~*connection point*~~*market connection point* in the *trading interval*, as recorded in the *metering data* in respect of that ~~*connection point*~~*market connection point* and that *trading interval,* where the flow is towards the *transmission network connection point* to which the ~~*connection point*~~*market connection point* is assigned.

3.15.5 Unaccounted for energy adjustment – local areas

(a) For each *local area*, an amount representing unaccounted for *energy* is determined by *AEMO* for each *trading interval* by the following formula:

UFE = TME - DDME - ADME

where:

UFE is the total unaccounted for *energy* amount (in MWh) to be determined;

TME is the amount of electrical *energy*, expressed in MWh, flowing at each of the *transmission network connection points* in the *local area* in the *trading interval*, as recorded in the *metering data* in respect of each of the *transmission network connection points* for that *trading interval* (expressed

as a positive value where the flow is towards the *transmission network*, and negative value where the flow is in the other direction);

DDME is the amount of electrical *energy*, expressed in MWh, flowing at each of the *distribution network connection points* in the *local area* which are connected to an adjacent *local area*, in the *trading interval*, as recorded in the *metering data* in respect of each of those *distribution network connection points* for that *trading interval* (expressed as a negative value where the flow is towards the adjacent *distribution network*, and positive value where the flow is in the other direction) adjusted by the *distribution loss factor* applicable at that *connection point*; and

ADME is the aggregate of the amounts represented by (ME- × DLF) and (ME+ × DLF) for that *trading interval* for each ~~*connection point*~~*market connection point* assigned to the *transmission network connection point* or *virtual transmission node*, for which a *Market Participant* (other than a suspended *Market Participant*) is *financially responsible*.

Note

The DDME value for a *local area* that is connected to an adjacent *local area* will appear in the calculation of UFE for both *local areas*. A positive *energy* flow for the calculation of UFE for one *local area* would correspond to a negative flow for the calculation of UFE for the other *local area*.

(b) The unaccounted for *energy* amount determined by *AEMO* under paragraph (a) for a *local area* is to be allocated to all *market connection points* in that *local area* by calculating UFEA for the *market connection point* in accordance with paragraph (c) and including UFEA in the calculation of ACE as provided for in clause 3.15.4(b).

(c) The allocation of the total unaccounted for *energy* amount determined under paragraph (a) to a *market connection point* in a *local area* in accordance with paragraph (b) is determined by *AEMO* by the following formula:

UFEA = UFE × (DME/ADMELA)

where:

UFEA is the allocation of the unaccounted for *energy* amount (in MWh) for the relevant *market connection point* and *trading interval*;

UFE is the unaccounted for *energy* amounts determined under paragraph (a) for the *local area*;

DME is the amount represented by (ME- × DLF) for the relevant *market connection point* and *trading interval* where:

ME- has the meaning given in clause 3.15.4(d); and

DLF is the distribution loss factor applicable at that *market connection point*; and

ADMELA is the aggregate of the amounts represented by DME for that *trading interval* for each *market connection point* in that *local area*.

(d) *AEMO* must *publish* information to enable a *Market Participant* in a *local area* to verify the unaccounted for *energy* amounts allocated to *market connection points* of the *Market Participant* in that *local area* for each

trading interval in accordance with a procedure developed and *published* by *AEMO*.

3.15.6 Spot market transactions

(a) In each *trading interval*, in relation to each *market connection point* and to each *virtual transmission node* for which a *Market Participant* is *financially responsible*, a *spot market transaction* occurs, which results in a *trading amount* for that *Market Participant* determined in accordance with the formula:

TA = AGE × TLF × RRP

where

TA is the *trading amount* to be determined (which will be a positive or negative dollar amount for each *trading interval*);

AGE is the *adjusted gross energy* for that *market connection point* or *virtual transmission node* for that *trading interval*, expressed in MWh;

TLF for a *transmission network connection point* or *virtual transmission node*, is the relevant *intra-regional loss factor* at that ~~*connection point*~~*market connection point* or *virtual transmission node* respectively, and for any other ~~*connection point*~~*market connection point*, is the relevant *intra-regional loss factor* at the *transmission network connection point* or *virtual transmission node* to which it is assigned in accordance with clause 3.6.2(b)(2); and

RRP is the *regional reference price* for the *regional reference node* to which the ~~*connection point*~~*market connection point* or *virtual transmission node* is assigned, expressed in dollars per MWh.

Note

Where two *intra-regional loss factors* are determined for a *transmission network connection point* under clause 3.6.2(b)(2), *AEMO* will determine the relevant *intra-regional loss factor* for use under this clause in accordance with the procedure determined under clause 3.6.2(d1).

Where one ~~*connection point*~~*market connection point* is assigned to both a single *transmission network connection point* and a *virtual transmission node*, the *intra-regional loss factor* for the *virtual transmission node* will apply.

(b) Except with respect to any *trading interval* in a *market suspension pricing schedule period* in relation to which *AEMO* has issued a *direction* to a *Market Suspension Compensation Claimant*, *AEMO* is entitled to the *trading amount* resulting from a *AEMO intervention event* and, for the purposes of determining *settlement amounts*, any such *trading amount* is not a *trading amount* for the relevant *Market Participant*.

(c) A *Directed Participant* is entitled to the *trading amount* resulting from any service, other than the service the subject of the *AEMO intervention event*, rendered as a consequence of that event.

3.15.6A Ancillary service transactions

Definitions

(a0) In this clause 3.15.6A:

regional benefit ancillary services procedures means the procedures to determine the relative benefit that each *region* is estimated to receive from the provision of *NMAS.*

regional benefit factors means the factors to allocate, between *regions*, the costs associated with the provision of *NMAS* under each *ancillary services agreement* in accordance with the regional benefit ancillary services procedures.

Trading amount calculation for the provision of ancillary services

(a) In each *trading interval*, in relation to each *enabled ancillary service unit*, an *ancillary services transaction* occurs, which results in a *trading amount* for the relevant *Market Participant* determined in accordance with the following formula:

$$TA = \text{the aggregate of } \frac{EA \times ASP}{(12)}$$

where:

TA (in $)	=	the *trading amount* to be determined (which is a positive number);
EA (in MW)	=	the amount of the relevant *market ancillary service* which the *ancillary service unit* has been *enabled* to provide in the *trading interval*; and
ASP (in $ per MW per hour)	=	the *ancillary service price* for the *market ancillary service* for the *trading interval* for the *region* in which the *ancillary service unit* has been *enabled*.

(b) In relation to each *NMAS provider* who provides *non-market ancillary services* under an *ancillary services agreement*, an *ancillary services transaction* occurs, which results in an amount payable by *AEMO* to the *NMAS provider* determined in accordance with that agreement.

Recovery of costs relating to non-market ancillary services

(b1) Where an amount is payable by *AEMO*:

(1) under clause 4.3.6(o); or

(2) under paragraph (b) where it is not determined on a *trading interval basis*,

that amount is recovered in accordance with the relevant paragraphs (c8), (c9), (d) and (e), except that a reference to *trading interval* in the calculation

of RBF, ACE, AACE, TSOE, ATSOE, TCE and ATCE is to be read as "the relevant period", and any other reference to *trading interval* in those paragraphs is to be read as the "relevant *billing period*".

(c) **[Deleted]**

(c1) **[Deleted]**

(c2) Subject to paragraph (b1), *AEMO* must recover its liabilities under *ancillary services agreements* from *Cost Recovery Market Participants* in each *region* as follows:

(1) in relation to *NSCAS*, in accordance with paragraphs (c8) and (c9); and

(2) in relation to *SRASs*, in accordance with paragraphs (d) and (e).

(c3) In the statements to be provided under clauses 3.15.14 and 3.15.15 to a *Cost Recovery Market Participant*, *AEMO* must separately identify the portion of the total amount payable by *AEMO* in respect of the relevant *billing period* under *ancillary services agreements* for the provision of *NSCAS* that:

(1) benefits specific *regions* in which there is a ~~*connection point*~~*market connection point* for which the *Cost Recovery Market Participant* is *financially responsible* (being the *regional* amounts given by the first summated term in the paragraph (c8) formula); and

(2) does not benefit specific *regions* (being the amount $TNSCAS_i$ in the paragraph (c9) formula).

(c4) *AEMO* must develop and *publish* the regional benefit ancillary services procedures in accordance with the *Rules consultation procedures*. Without limiting the matters to be included in the regional benefit ancillary services procedures, they must require *AEMO* to take into account:

(1) for an *NSCAS*, the estimated increase for each *region* of the gross economic benefit from increased *power transfer capability*; and

(2) for an *SRAS*, that can be used to restart *generating units* or *bidirectional units* in two or more *regions*, the relative benefit provided by that service to each *region*.

(c5) Subject to paragraph (c6), *AEMO* may amend the regional benefit ancillary services procedures from time to time in accordance with the *Rules consultation procedures*.

(c6) *AEMO* may make minor and administrative amendments to the regional benefit ancillary services procedures without complying with the *Rules consultation procedures*.

(c7) From time to time, *AEMO* must determine the regional benefit factors in accordance with the regional benefit ancillary services procedures and publish those factors.

Trading amount calculation for NSCAS cost recovery

(c8) In each *trading interval*, in relation to each *Cost Recovery Market Participant* for each *region*, an *ancillary services* transaction occurs, which

results in a *trading amount* for the *Cost Recovery Market Participant* determined in accordance with the following formula:

$$TA_{i,R} = \left(\sum_{\text{for all } S} (TNSCAS_{S,i} \times RBF_{S,i,R}) \right) \times \frac{ACE_{i,R}}{AACE_{i,R}} \times -1$$

where:

subscript i		refers to the relevant *trading interval*;
subscript R		refers to the relevant *region*;
subscript S		refers to the relevant *NSCAS*;
$TA_{i,R}$ (in $)	=	the trading amount payable by the *Cost Recovery Market Participant* in respect of the relevant *region* and *trading interval*;
$TNSCAS_{s,i}$ (in $)	=	the total amount payable by *AEMO* for the provision of the relevant *NSCAS* under an *ancillary services agreement* in respect of the relevant *trading interval*;
$RBF_{s,i,R}$ (number)	=	the latest regional benefit factor assigned to the provision of the relevant *NSCAS* under the *ancillary services agreement* in respect of the relevant *region* and *trading interval*, as determined by *AEMO* under paragraph (c7);
$ACE_{i,R}$ (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery Market Participant* located in the *region*, of the *adjusted consumed energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*; and
$AACE_{i,R}$ (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* located in the *region*, of the *adjusted consumed energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*.

(c9) In each *trading interval*, in relation to each *Cost Recovery Market Participant*, an *ancillary services* transaction occurs, which results in a *trading amount* for the *Cost Recovery Market Participant* determined in accordance with the following formula:

$$TA_i = TNSCAS_i \times \left(\frac{ACE_i}{AACE_i} \right) \times -1$$

where:

subscript i	=	refers to the relevant *trading interval*;
TA_i (in $)	=	the *trading amount* payable by the *Cost Recovery Market Participant* in respect of the relevant *trading interval*;
$TNSCAS_i$ (in $)	=	the sum of all amounts payable by *AEMO* for the provision of *NSCAS* under *ancillary services agreements* in respect of the relevant *trading interval* minus the sum of the *trading amounts* calculated for all *Cost Recovery Market Participants* in respect of all of the relevant *trading interval* under paragraph (c8);
ACE_i (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery Market Participant,* of the *adjusted consumed energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*; and
$AACE_i$ (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points*, of the *adjusted consumed energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval.*

(c10) [**Deleted**]

Trading amount calculation for SRAS and SRAS tests cost recovery

(d) In each *trading interval*, in relation to each *Cost Recovery Market Participant* for each *region*, an ancillary services transaction occurs, which results in a *trading amount* for the *Cost Recovery Market Participant* determined in accordance with the following formula:

$$TA_{i,R} = \sum \left(\left(\frac{SRP_i \times RBF_{i,R}}{2} \right) \times \left(\frac{TSOE_{i,R}}{ATSOE_{i,R}} \right) \right) \times -1$$

where:

subscript i		refers to the relevant *trading interval*;
subscript R		refers to the relevant *region*;
$TA_{i,R}$ (in $)	=	the *trading amount* payable by the *Cost Recovery Market Participant* in respect of the relevant *trading interval* and *region*;
SRP_i (in $)	=	the amount payable by *AEMO* in respect of the *trading interval* under an individual *ancillary services agreement* in respect of the provision of a specific *SRAS* or, for the

purposes of clause 4.3.6(q), the compensation payable by *AEMO* under clause 4.3.6(o) for the relevant *billing period*;

$RBF_{i,R}$ (number) = the latest regional benefit factor assigned to the provision of the relevant *SRAS* under the *ancillary services agreement* in respect of the relevant *region* and *trading interval*, as determined by *AEMO* under paragraph (c7);

$TSOE_{i,R}$ (in MWh) = the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery Market Participant* located in the *region*, of the *adjusted sent out energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*; and

$ATSOE_{i,R}$ (in MWh) = the sum, for all ~~*connection points*~~*market connection points* located in the *region*, of the *adjusted sent out energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*.

(e) In each *trading interval*, in relation to each *Cost Recovery Market Participant*, for each *region*, an ancillary services transaction occurs, which results in a *trading amount* for the *Cost Recovery Market Participant* determined in accordance with the following formula:

$$TA_{i,R} = \sum \left(\left(\frac{SRP_i \times RBF_{i,R}}{2} \right) \times \frac{TCE_{i,R}}{ATCE_{i,R}} \right) \times -1$$

where:

subscript i refers to the relevant *trading interval*;

subscript R refers to the relevant *region*;

$TA_{i,R}$ (in $) = the *trading amount* payable by the *Cost Recovery Market Participant* in respect of the relevant *region* and *trading interval*;

SRP_i (in $) = the amount payable by *AEMO* in respect of the *trading interval* under an individual *ancillary services agreement* in respect of the provision of a specific *SRAS* or, for the purposes of clause 4.3.6(q), the compensation payable by *AEMO* under clause 4.3.6(o) for the relevant *billing period*;

$RBF_{i,R}$ (number) = the latest regional benefit factor assigned to the provision of the relevant *SRAS* under an individual *ancillary services agreement* in

respect of the relevant *region* and *trading interval*, as determined by *AEMO* under paragraph (c7);

$TCE_{i,R}$ (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery Market Participant* located in the *region*, of the *adjusted consumed energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*; and
$ATCE_{i,R}$ (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* located in the *region*, of the *adjusted consumed energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*.

In each *trading interval*, in relation to each *Cost Recovery Market Participant*, for each *region*, an ancillary services transaction occurs, which results in a *trading amount* for the *Cost Recovery Market Participant* determined in accordance with the following formula:

$$TA_{i,R} = \sum \left(\left(\frac{SRP_i \times RBF_{i,R}}{2} \right) \times \frac{TCE_{i,R}}{ATCE_{i,R}} \right) \times -1$$

where:

subscript i		refers to the relevant *trading interval*;
subscript R		refers to the relevant *region*;
$TA_{i,R}$ (in $)	=	the *trading amount* payable by the *Cost Recovery Market Participant* in respect of the relevant *region* and *trading interval*;
SRP_i (in $)	=	the amount payable by *AEMO* in respect of the *trading interval* under an individual *ancillary services agreement* in respect of the provision of a specific *SRAS* or, for the purposes of clause 4.3.6(q), the compensation payable by *AEMO* under clause 4.3.6(o) for the relevant *billing period*;
$RBF_{i,R}$ (number)	=	the latest regional benefit factor assigned to the provision of the relevant *SRAS* under an individual *ancillary services agreement* in respect of the relevant *region* and *trading interval*, as determined by *AEMO* under paragraph (c7);
$TCE_{i,R}$ (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery*

Market Participant located in the *region*, of the *adjusted consumed energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*; and

$ATCE_{i,R}$ (in MWh) = the sum, for all ~~*connection points*~~*market connection points* located in the *region*, of the *adjusted consumed energy* amount for the *market connection point* ~~*connection point*~~ for the *trading interval*.

Trading amount calculation for very fast raise service, fast raise service, slow raise service or delayed raise service

(f) The total amount calculated by *AEMO* under paragraph (a) for each of the *very fast raise service*, *fast raise service*, *slow raise service* or *delayed raise service* in respect of each *trading interval* must be allocated to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b). *AEMO* must:

(1) allocate for each *region* and for the relevant *trading interval* the proportion of the total amount calculated by *AEMO* under paragraph (a) for each of the *very fast raise service*, *fast raise service*, *slow raise service* or *delayed raise service* between *global market ancillary services requirements* and *local market ancillary service requirement* pro-rata to the respective marginal prices for each such service;

(2) calculate for the relevant *trading interval* the sum of the costs of acquiring the *global market ancillary service requirements* for all *regions* and the sum of the costs of acquiring each *local market ancillary service requirement* for all *regions*, as determined pursuant to subparagraph (f)(1); and

(3) allocate for the relevant *trading interval* the sum of the costs of the *global market ancillary service requirement* and each *local market ancillary service requirement* calculated in subparagraph (f)(2) to each *region* as relevant to that requirement pro-rata to the aggregate of the *adjusted sent out energy* for all *Cost Recovery Market Participants* in each *region* during the *trading interval*.

(f1) In each *trading interval*, in relation to each *Cost Recovery Market Participant*, for each *region*, an ancillary services transaction occurs, which results in a *trading amount* for that *Cost Recovery Market Participant* determined in accordance with the following formula:

$$TA = RTCRSP \times \left(\frac{TSOE}{RATSOE}\right) \times -1$$

where:

TA (in $) = the *trading amount* payable by the *Cost Recovery Market Participant* in respect of the relevant *region* and *trading interval*;

RTCRSP (in $)	=	the sum of: (1) the *global market ancillary service requirement* cost for that *region*, for the relevant *trading interval*, as determined pursuant to paragraph (f)(3); and (2) all *local market ancillary service requirement* costs for that *region*, for the relevant *trading interval*, as determined pursuant to paragraph (f)(3);
TSOE (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery Market Participant* located in the *region*, of the *adjusted sent out energy* for the *trading interval*; and
RATSOE (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* located in the *region*, of the *adjusted sent out energy* for the *trading interval*.

Trading amount calculation for very fast lower service, fast lower service, slow lower service or delayed lower service

(g) The total amount calculated by *AEMO* under paragraph (a) for each of the *very fast lower service*, *fast lower service*, *slow lower service* or *delayed lower service* in respect of each the *trading interval* must be allocated to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b). *AEMO* must:

(1) allocate for each *region* and for the relevant *trading interval* the proportion of the total amount calculated by *AEMO* under paragraph (a) for each of the *very fast lower service*, *fast lower service*, *slow lower service* or *delayed lower service* between *global market ancillary service requirements* and *local market ancillary service requirement* pro rata to the respective marginal prices of each such service;

(2) calculate for the relevant *trading interval* the sum of the costs of acquiring the *global market ancillary service requirements* for all *regions* and the sum of the costs of acquiring each *local market ancillary service requirement* for all *regions*, as determined pursuant to subparagraph (g)(1); and

(3) allocate for the relevant *trading interval* the sum of the costs of the *global market ancillary service requirement* and each *local market ancillary service requirement* calculated in subparagraph (g)(2) to each *region* as relevant to that requirement pro-rata to the aggregate of the *adjusted consumed energy* amounts for all *Cost Recovery Market Participants* in each *region* during the *trading interval*.

(g1) In each *trading interval*, in relation to each *Cost Recovery Market Participant*, for each *region*, an ancillary services transaction occurs, which

results in a *trading amount* for that *Cost Recovery Market Participant* determined in accordance with the following formula:

$$TA = RTCLSP \times \frac{TCE}{RATCE} \times -1$$

where:

TA (in $)	=	the *trading amount* payable by the *Cost Recovery Market Participant* in respect of the relevant *region* and *trading interval*;
RTCLSP (in $)	=	the sum of: (1) the *global market ancillary service requirement* cost for that *region*, for the relevant *trading interval*, as determined pursuant to paragraph (g)(3); and (2) all *local market ancillary service requirement* costs for that *region*, for the relevant *trading interval*, as determined pursuant to paragraph (g)(3);
TCE (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery Market Participant* located in the *region*, of the *adjusted consumed energy* amount for the *market connection point*~~*connection point*~~ for the *trading interval*; and
RATCE (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* located in the *region*, of the *adjusted consumed energy* amounts for the *trading interval*.

(h) The total amount calculated by *AEMO* under paragraph (a) for the *regulating raise service* or the *regulating lower service* in respect of each *trading interval* must be allocated by *AEMO* to each *region* in accordance with the following procedure and the information provided under clause 3.9.2A(b):

(1) allocate on a pro-rata basis for each *region* and for the relevant *trading interval* the proportion of the total amount calculated by *AEMO* under paragraph (a) for the *regulating raise service* and *regulating lower service* between *global market ancillary service requirements* and *local market ancillary service requirements* to the respective marginal prices for each such service; and

(2) calculate for the relevant *trading interval* the sum of the costs of the *regulating raise service* or the *regulating lower service* for each *global market ancillary service requirement* for all *regions*, and the *regulating raise service* or the *regulating lower service* for each *local*

market ancillary service requirement for all relevant *regions*, as determined under subparagraph (1); and

(3) allocate for each *trading interval* the costs of the *global market ancillary service requirements* and *local market ancillary service requirements* calculated in subparagraph (2) in accordance with clauses 3.15.6AA(c) and (d).

(i) When *AEMO* dispatches a quantity of *regulating raise service* or *regulating lower service* in addition to the quantity it determines in accordance with the *dispatch algorithm*, *AEMO* must:

(1) for the purposes of paragraphs (f) and (g), include the additional quantity in the cost of *delayed services*; and

(2) for the purposes of paragraphs (h) and clauses 3.15.6AA(c) and (d), exclude the additional quantity from the cost of *regulation services*,

taking into account the requirements in clauses 3.8.1(a) and (b) to maximise the value of *spot market* trading.

3.15.8 Funding of Compensation for directions

Definitions

(a) *AEMO* must, in accordance with the *intervention settlement timetable*, calculate the *compensation recovery amount* being:

(1) the sum of:

(i) the total of the compensation payable to *AEMO* by *Affected Participants* and *Ancillary Service Providers* under clause 3.12.2 in respect of a *direction* for the provision of *energy*; plus

(ii) the total of the amounts retained by *AEMO* pursuant to clause 3.15.6(b) in respect of a *direction* for the provision of *energy*;

(2) less the sum of:

(i) the total of the compensation payable by *AEMO* to *Affected Participants*, *Market Customers* and *Ancillary Service Providers* pursuant to clause 3.12.2 in respect of a *direction* for the provision of *energy*; plus

(ii) the total of the compensation payable by *AEMO* to *Directed Participants* (other than *Directed Participants* who are also *Market Suspension Compensation Claimants*) pursuant to clause 3.15.7(a) in respect of a *direction* for the provision of *energy*; plus

(iii) the total amount payable by *AEMO* to the independent expert pursuant to clause 3.12.3(c).

(b) *AEMO* must, in accordance with the *intervention settlement timetable*, calculate a figure for each *Cost Recovery Market Participant* in each *region* applying the following formula:

$$CRP = \frac{E}{\sum E} \times \frac{RB}{\sum RB} \times CR$$

where:

CRP is the amount payable or receivable by a *Cost Recovery Market Participant* pursuant to this paragraph (b);

E is the sum of the *Cost Recovery Market Participant's adjusted consumed energy* amounts at its *market connection points* in the *region*, in respect of the relevant *intervention price trading intervals* excluding *adjusted consumed energy* of *scheduled loads* or *scheduled bidirectional units*, in respect of which the *Cost Recovery Market Participant* submitted a *dispatch bid* for the relevant *intervention price trading interval* in that *region*; and

RB is the regional benefit determined by *AEMO* pursuant to clause 3.15.8(b1) at the time of issuing the *direction*.

CR is the *compensation recovery amount*.

Note

This paragraph is classified as a tier 3 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

Note

The values of E and ∑E are subject to substitution in accordance with clause 3.15.6AA.

(b1) *AEMO* must, as soon as practicable following the issuance of a *direction*, determine the relative benefit each *region* received from the issuance of a *direction* in accordance with the *regional benefit directions procedures*.

(b2) *AEMO* must develop in accordance with the *Rules consultation procedures* a procedure to determine the relative benefit each *region* receives from the issuance of a *direction* (the *regional benefit directions procedures*). Such procedures must take into account, where applicable to the reason the *direction* was given, the *load* at risk of not being supplied if the *direction* were not issued or the extent of improvement in available *energy* reserve in the *region*, capability to control *voltage* in the *region*, and capability to control *power system frequency* within the *region* and any other relevant matters.

(c) If the figure calculated for a *Cost Recovery Market Participant* under paragraph (b) is negative, the absolute value of that amount is the amount payable by the *Cost Recovery Market Participant* to *AEMO* pursuant to paragraph (b).

(d) Subject to clause 3.15.22, if the figure calculated for a *Cost Recovery Market Participant* under paragraph (b) is positive, such amount is the amount receivable by the *Cost Recovery Market Participant* from *AEMO* pursuant to paragraph (b), subject to the provisions of clause 3.15.22.

(e) *AEMO* must, in accordance with the *intervention settlement timetable*, calculate for each *ancillary service* the subject of a *direction*, the "***ancillary service compensation recovery amount***" being:

(1) the sum of:

(i) the total of the compensation payable to *AEMO* by *Affected Participants* and *Ancillary Service Providers* under clause 3.12.2 in respect of a *direction* for the provision of that *ancillary service*; plus

(ii) the total of the amounts retained by *AEMO* pursuant to clause 3.15.6(b) in respect of a *direction* for the provision of that *ancillary service*;

(2) less the sum of:

(i) the total of the compensation payable by *AEMO* to *Affected Participants*, *Affected Load Participants* and *Ancillary Service Providers* pursuant to clause 3.12.2 in respect of a *direction* for the provision of that *ancillary service*; plus

(ii) the total of the compensation payable by *AEMO* to *Directed Participants* pursuant to clause 3.15.7(a) in respect of a *direction* for the provision of that *ancillary service*; plus

(iii) the total amount payable by *AEMO* to the independent expert pursuant to clause 3.12.3(c), if the *direction* the subject of the independent expert's determination was with respect to that *ancillary service*.

(f) The *trading amount* must be calculated as follows:

(1) subject to clause 3.15.8(f)(2) and (3) *AEMO* must use the appropriate formula set out in clause 3.15.6A(c8), (c9), (d), (e), (f), (f1), (g), (g1), (h) or (i) depending on which *ancillary service* was the subject of the *direction*;

(2) TNSCAS, RTCRSP, RTCLSP or TSFCAS (as applicable) in the relevant formula is equal to the *ancillary service compensation recovery amount* for the relevant *ancillary service* in respect of the *direction*; and

(3) for each other defined term in the relevant formula, a reference to a *trading interval* in the definition is to be read as a reference to all of the *trading intervals* during which the *direction* applied.

(g) Any compensation payable by *AEMO* under clause 3.12.2 and 3.15.7 not recovered under paragraph (b) and paragraph (e) must be recovered from *Cost Recovery Market Participants*. *AEMO* must, in accordance with the *intervention settlement timetable*, calculate a figure for each *Cost Recovery Market Participants* in each *region* applying the following formula:

$$CRP = \frac{TSOE - TCE}{RATSOE - RATCE} \times \frac{RB}{\sum RB} \times CRA \times -1$$

where:

CRP (in $) = the amount payable or receivable by a *Cost Recovery Market Participant* under this paragraph (g);

TSOE (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery Market Participant* located in the *region*, of the *adjusted sent out energy* in all relevant *intervention price trading intervals*;
TCE (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* of the *Cost Recovery Market Participant* located in the *region*, of the *adjusted consumed energy* amounts in all relevant *intervention price trading intervals*;
RATSOE (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* located in the *region* of all *Cost Recovery Market Participants*, of the *adjusted sent out energy* amounts in all relevant *intervention price trading intervals*;
RATCE (in MWh)	=	the sum, for all ~~*connection points*~~*market connection points* located in the *region* of all *Cost Recovery Market Participants*, of the *adjusted consumed energy* amounts in all relevant *intervention price trading intervals*;
RB (number)	=	the regional benefit determined by *AEMO* under paragraph (b1) at the time of issuing the *direction*; and
CRA	=	the *compensation recovery amount*.

3.15.8A Funding of compensation for market suspension pricing schedule periods

Definitions

(a0) In this clause:

ancillary service compensation recovery amount has the meaning given to it in paragraph (f).

(a) *AEMO* must, in accordance with the *intervention settlement timetable*, calculate the *market suspension compensation recovery amount* being the sum of:

(1) the total of the compensation payable by *AEMO* to *Market Suspension Compensation Claimants* calculated in accordance with clauses 3.14.5A(d), 3.14.5B and 3.15.7B (as the case may be) for the provision of *energy* during a *market suspension pricing schedule period*; plus

(2) the total amount payable by *AEMO* to the independent expert pursuant to clause 3.12.3(c); less

(3) any administrative costs payable by *Market Suspension Compensation Claimants* pursuant to clause 3.14.5B(e).

(b) *AEMO* must, in accordance with the *intervention settlement timetable*, calculate a figure for each *Cost Recovery Market Participant* in each *region* applying the following formula:

$$CRP = \frac{E}{\sum E} \times \frac{RB}{\sum RB} \times CRA$$

where:

CRP is the amount payable by a *Cost Recovery Market Participant* pursuant to this paragraph (b).

E is the sum of the *Cost Recovery Market Participant's adjusted consumed energy* amounts at each *market connection point* ~~*connection point*~~ for which the *Cost Recovery Market Participant* is *financially responsible* in the *region* in respect of the *trading intervals* that occur during a *market suspension pricing schedule period*.

RB is the regional benefit determined by *AEMO* pursuant to paragraph (e).

CRA is the *market suspension compensation recovery amount*.

Note

The values of E and ∑E are subject to substitution in accordance with clause 3.15.6AA.

(c) (c) If the figure calculated for a *Cost Recovery Market Participant* under paragraph (b) is negative, the *Cost Recovery Market Participant* is liable to pay the absolute value of that amount to *AEMO*.

Note

This paragraph is classified as a tier 1 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 the figure calculated for a *Cost Recovery Market Participant* under paragraph (b) is positive, then the amount payable by the *Cost Recovery Market Participant* to *AEMO* is deemed to be zero.

(e) *AEMO* must, as soon as practicable, determine the relative benefit each *region* received from the payment of compensation under clauses 3.14.5A and 3.14.5B (as the case may be). In determining the relative benefit each *region* received from the payment of such compensation, *AEMO* must take into account, where applicable, the reason the compensation was paid, the *load* at risk of not being supplied if the compensation was not paid or the extent of improvement in available *energy* reserves in the *region*, capability to control *voltage* in the *region* and capability to control *power system frequency* within the *region*, and any other relevant matters.

(f) *AEMO* must, in accordance with the *intervention settlement timetable*, calculate for each *market ancillary service* the subject of a *direction*, the "***ancillary service compensation recovery amount***" being:

(1) the total of the compensation payable by *AEMO* to *Market Suspension Compensation Claimants* calculated in accordance with clauses 3.14.5A(d), 3.14.5B and 3.15.7B (as the case may be) for the provision of *market ancillary services* during a *market suspension pricing schedule period*; plus

(2) the total amount payable by *AEMO* to the independent expert pursuant to clause 3.12.3(c); less

(3) any administrative costs payable by *Market Suspension Compensation Claimants* pursuant to clause 3.14.5B(e).

(g) The *trading amount* must be calculated as follows:

(1) subject to subparagraphs (2) and (3), *AEMO* must use the appropriate formula set out in clause 3.15.6A(c8), (c9), (d), (e), (f), (f1), (g), (g1), (h) or (i) depending on which *market ancillary service* was provided during a *market suspension pricing schedule period*;

(2) TNSCAS, RTCRSP, RTCLSP or TSFCAS (as applicable) in the relevant formula is equal to the *ancillary service compensation recovery amount* for the relevant *ancillary service* in respect of that *market suspension pricing schedule period*; and

(3) for each other defined term in the relevant formula, a reference to a *trading interval* in the definition is to be read as a reference to 'all of the *trading intervals* within the *market suspension pricing schedule period* in which the *Market Suspension Compensation Claimant* provided *market ancillary services*'.

3.15.9A Procurer of last resort cost allocation

(a) In this clause:

aggregate RERT dispatched has the meaning given in subparagraph (c)(2).

aggregate RERT fixed payments has the meaning given in subparagraph (c)(3).

aggregate RERT procured has the meaning given in subparagraph (c)(1).

aggregate RERT variable payments has the meaning given in subparagraph (c)(4).

availability liability means the liability calculated under paragraph (g).

fixed PoLR costs has the meaning given in clause paragraph (d).

PoLR debt has the meaning given in paragraph (f).

usage liability means the liability calculated under paragraph (h).

variable PoLR costs has the meaning given in paragraph (e).

(b) This clause:

(1) is a cost recovery scheme under section 14T of the *NEL* that allows *AEMO* to recover the costs of contracting *reserves* under rule 3.20 that

are related to a *reliability gap period* where there are one or more *PoLR liable entities*;

(2) operates as part of, and as an adjustment to, the cost recovery mechanism in clause 3.15.9 by reallocating certain *RERT* costs recovered under clause 3.15.9 to *PoLR liable entities* as PoLR debts; and

(3) only applies in respect of a *reliability gap period* for a *region* if the *AER* provides *AEMO* with an *AER PoLR report* for that *reliability gap period*.

Step 1 - Identifying RERT costs which are PoLR costs

(c) *AEMO* must, in respect of each *reliability gap period* for a *region* the subject of an *AER PoLR report*, calculate:

(1) the aggregate of the nominal values of reserves (in MW) procured under *reserve contracts* for all or part of that *reliability gap period* ("**aggregate RERT procured**");

(2) the aggregate volume (in MWh) of *reserves dispatched* or *activated* during each *PoLR TI* notified in the *AER PoLR report* ("**aggregate RERT dispatched**");

(3) the aggregate of all amounts of "OC" as defined in clause 3.15.9(e) paid by *AEMO* for that *reliability gap period* ("**aggregate RERT fixed payments**");

(4) the aggregate of all amounts of "UC" as defined under clause 3.15.9(e) paid by *AEMO* for a *PoLR TI* notified in the *AER PoLR report* ("**aggregate RERT variable payments**");

(5) the fixed PoLR costs for that entire *reliability gap period* as calculated under paragraph (d); and

(6) the variable PoLR costs for each *PoLR TI* notified in the *AER PoLR report* as calculated under paragraph (e),

in each case, in accordance with this clause and the *PoLR cost procedures*.

(d) The fixed costs ("**fixed PoLR costs**") for the *reliability gap period* the subject of an *AER PoLR report* must be calculated by *AEMO* as follows:

$$FPC = \left(\frac{FRG}{ARP} \right) \times ARFP$$

where:

FPC = the fixed PoLR costs for that entire *reliability gap period* (in $);

FRG = the *forecast reliability gap* for that *reliability gap period* (in MW);

ARP = the aggregate RERT procured (in MW) for that *reliability gap period*; and

ARFP = the aggregate RERT fixed payments (in $) for that *reliability gap period*,

except that if FRG/ARP > one, then it is taken to be one.

(e) The variable costs ("**variable PoLR costs**") for each *PoLR TI* during a *reliability gap period* that is the subject of an *AER PoLR report* must be calculated by *AEMO* as follows:

$$VPC = \left(\frac{FRG}{ARD}\right) \times ARVP$$

where:

VPC = the variable PoLR costs for that *PoLR TI* (in $);

FRG = the *forecast reliability gap* for that *reliability gap period* (in MW);

ARD = the aggregate *RERT dispatched* or *activated* in that *PoLR TI* multiplied by the number of *trading intervals* in an hour (in MW); and

ARVP = the aggregate RERT variable payments for that *reliability gap period* (in $),

except that if FRG/ARD > one, then it is taken to be one.

Step 2 - Calculating PoLR debts

(f) A *PoLR liable entity* is liable to pay *AEMO* an amount for a *reliability gap period* the subject of an *AER PoLR Report* ("**PoLR debt**") calculated as the lesser of:

(1) the aggregate of:

(i) the *PoLR liable entity's* availability liability for that *reliability gap period*; and

(ii) the sum of the usage liability for all *PoLR TIs* for that *PoLR liable entity* in that *reliability gap period*, and

(2) $100 million.

Note

Section 14T of the *NEL* provides that a *PoLR liable entity* is not liable for more than $100 million under a PoLR cost recovery scheme in relation to a *reliability gap period*.

(g) A *PoLR liable entity's* availability liability for the entire *reliability gap period* ("**availability liability**") is calculated as follows:

$$AL = \frac{LHUM}{Max[AHUM, FRG]} \times FPC$$

where:

AL = that *PoLR liable entity's* availability liability (in $);

LHUM = that *PoLR liable entity's* highest *uncontracted MW position* for any *PoLR TI* in that *reliability gap period* (in MW);

Max = the higher of AHUM and FRG;

AHUM = the aggregate of all *PoLR liable entities'* highest *uncontracted MW positions* in any *PoLR TI* in that *reliability gap period* (in MW);

FRG = the *forecast reliability gap* for that *reliability gap period* (in MW);

FPC = the fixed PoLR costs for that *reliability gap period*.

(h) The *PoLR liable entity's* usage liability for a *PoLR TI* ("**usage liability**") is calculated as follows:

$$UL = \frac{LUM}{Max[AUM, FRG]} \times VPC$$

where:

UL = that *PoLR liable entity's* usage liability (in $);

LUM = that *PoLR liable entity's uncontracted MW position* for that *PoLR TI* (in MW);

Max = the higher of AUM and FRG;

AUM = the aggregate of all *PoLR liable entities' uncontracted MW positions* in that *PoLR TI* (in MW);

FRG = the *forecast reliability gap* for that *reliability gap period* (in MW);

VPC = the variable PoLR costs for that *PoLR TI*.

Step 3 - Recovering PoLR debts and rebating RERT costs

(i) If the *PoLR liable entity* is a *Market Customer*, *AEMO* may include the PoLR debt in the next *settlement statement* issued to that *Market Customer*.

(j) If the *PoLR liable entity* is not a *Market Customer*, *AEMO* may issue a tax invoice to that entity for the PoLR debt with a due date for payment of not less than 30 days.

(k) *AEMO* must rebate the proceeds from any PoLR debts it recovers in relation to a *reliability gap period* for a *region* to the *Market Customers* who have

paid fees under clause 3.15.9 for that *reliability gap period* based on their share of the total *energy* purchased at ~~*connection points*~~*market connection points* in that *region* during that *reliability gap period* as determined in accordance with the *PoLR cost procedures*.

(l) *AEMO* must develop, publish on its website and maintain, in accordance with the *Rules consultation procedures*, *PoLR cost procedures* that include:

(1) the methodology and inputs for calculating aggregate RERT dispatched, aggregate RERT fixed payments, aggregate RERT procured, aggregate RERT variable payments, fixed PoLR costs, variable PoLR costs and PoLR debts;

(2) the process and timeframes for calculating, invoicing, recovering, rebating and reporting on PoLR debts; and

(3) any other matters specified in Chapter 4A.

(m) *AEMO* may make minor or administrative amendments to the *PoLR cost procedures* without complying with the *Rules consultation procedures*.

3.15.10 Administered price cap or administered floor price compensation payments

(a0) In this clause 3.15.10:

cost recovery region means the *region* in which:

(1) the *spot price* was set by the *administered price cap* or *administered floor price*; or

(2) the *ancillary service price* was set by the *administered price cap*,

in the *eligibility period*.

eligibility period has the same meaning as in clause 3.14.6(a).

(a) If the *AEMC* awards compensation under clause 3.14.6, then *AEMO* must determine an amount which shall be payable by each *Cost Recovery Market Participant* who purchased electricity from the *spot market* in the cost recovery region.

(b) *AEMO* shall determine the amounts payable for each *eligibility period* by each *Cost Recovery Market Participant* as follows:

$$\frac{APC \times E_i}{\sum E_i}$$

where

APC is the total amount of any compensation payments awarded by the *AEMC* in respect of that *eligibility period* in accordance with clause 3.14.6.

E_i is the sum of all of the *Cost Recovery Market Participant's adjusted consumed energy* amounts in respect of each *trading interval* in the *eligibility period* and each *market connection point* ~~*connection point*~~ for which the *Cost Recovery Market Participant* is *financially responsible* in the cost recovery region.

$\sum E_i$ is the sum of all amounts determined as "Ei" in accordance with this clause3.15.10 for all *Cost Recovery Market Participants* in the cost recovery region.

(c) Within 25 *business days* of being notified by the *AEMC* that compensation is to be paid in accordance with clause 3.14.6, *AEMO* shall include in statements provided under clauses 3.15.14 and 3.15.15 separate details of any amounts payable by or to *Cost Recovery Market Participants* as determined in accordance with this clause 3.15.10.3.15.10A Goods and services tax

(a) In this clause 3.15.10A:

"GST" has the meaning given in the GST Act; and

"GST Act" means the *A New Tax System (Goods and Services Tax) Act 1999* (C'th);

"supply" and **"taxable supply"** each have the meaning given in the GST Act,

and the definition of "*supply*" in Chapter 10 does not apply.

(b) Despite anything else in the *Rules*, *Participant fees*, *spot prices*, adjustments for *directions*, *reserve settlements*, *administered price cap* compensation payments, *direction settlements*, re-allocation transactions, compensation, interest, *settlements residues*, *ancillary services settlements*, *settlements residue* distributions (including *auction* proceeds), *auction expense fees* and other prices, fees, charges and amounts payable to or by *AEMO*, the *AER* or the *AEMC* in respect of supplies under the *Rules* exclude GST. Accordingly:

(1) where a *Registered Participant* makes a taxable supply to *AEMO*, the *AER* or the *AEMC* under or in connection with the *Rules* on or after 1 July 2000, *AEMO*, the *AER* or the *AEMC* (as applicable) must also pay the *Registered Participant* making the supply an additional amount equal to the consideration payable for the supply multiplied by the applicable GST rate;

(2) where *AEMO*, the *AER* or the *AEMC* makes a taxable supply to a *Registered Participant* under the *Rules* on or after 1 July 2000, the *Registered Participant* must also pay *AEMO*, the *AER* or the *AEMC* (as applicable) an additional amount equal to the consideration payable for the supply multiplied by the applicable GST rate; and

Note

This subparagraph is classified as a tier 2 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) *AEMO* must include in *preliminary statements*, *final statements*, *routine revised statements*, *special revised statements*, statements and invoices issued under the *Rules* the additional amounts contemplated by clauses 3.15.10A(b)(1) and (2).

(c) However, if the additional amount paid or payable to a *Registered participant*, *AEMO*, the *AER* or the *AEMC* under clause 3.15.10A(b) in respect of a taxable supply differs from the actual amount of GST payable

by or to the *Registered Participant*, *AEMO*, the *AER* or the *AEMC* (as applicable) under the GST Act in respect of the relevant supply, then adjustments must be made in accordance with clause 3.15.19 so as to ensure the additional amount paid under this clause in respect of the supply is equal to the actual amount of GST payable under the GST Act in respect of the supply.

3.21 Regulated stand-alone power systems

3.21.1 Application of this Chapter to a regulated SAPS

(a) This Chapter applies in respect of *regulated SAPS*, *SAPS energy, SAPS Participants, SAPS facilities* and ~~*connection points*~~*market connection points* in a *regulated SAPS* in the manner provided for in this rule.

(b) In addition to this rule, the following provisions apply in respect of *regulated SAPS*, *SAPS energy, SAPS energy transactions, SAPS Participants, SAPS facilities* and ~~*connection points*~~*market connection points* in a *regulated SAPS*:

(1) rule 3.3 including the calculation of *outstandings* of each *Market Participant* that is also a *SAPS Participant* taking into account *trading amounts* for *SAPS energy transactions* and other transactions (if any);

(2) rule 3.15.3 for the purposes of determining the *Market Participant* that is *financially responsible* for a *market connection point* ~~*connection point*~~ in a *regulated SAPS*;

(3) the arrangements in clauses 3.15.12 to 3.15.25, so that for *settlements* and related matters *trading amounts* for *SAPS energy transactions* are taken into account with other *trading amounts*; and

(4) the arrangements in rule 3.19 for access to the *market management systems*.

(c) Except as provided for in this rule, this Chapter does not apply in respect of a *regulated SAPS*, *SAPS energy, SAPS energy transactions, SAPS Participants, SAPS facilities* or ~~*connection points*~~*market connection points* in a *regulated SAPS.*

3.21.2 Determination of the SAPS settlement price

(a) The *SAPS settlement price* for a *regional reference node* for a *financial year* is equal to 80% of the average *regional reference price* for the *regional reference node* for the prior *financial year*.

(b) For the purposes of paragraph (a), the average is calculated by adding the *regional reference prices* for the node for all *trading intervals* in the prior *financial year* and dividing the result by the number of *trading intervals* in the *financial year*.

(c) *AEMO* must as soon as practicable after the start of a *financial year* determine and *publish* the *SAPS settlement price* for each *regional reference node* for the *financial year*.

3.21.3 SAPS trading amount

(a) In each *trading interval*, in relation to each *market connection point* ~~*connection point*~~ in a *regulated SAPS* for which a *Market Participant* is *financially responsible*, a transaction occurs, which results in a *trading amount* for that *Market Participant* determined in accordance with the formula:

TA = ME × SAPSSP

where:

TA	=	the *trading amount* to be determined (which will be a positive or negative dollar amount for each *trading interval*);
ME	=	the amount of electrical *energy*, expressed in MWh, flowing at the *market connection point* ~~*connection point*~~ in the *trading interval*, as recorded in the *metering data* in respect of that *market connection point* ~~*connection point*~~ and that *trading interval* (expressed as a positive value where the flow is towards the *stand-alone distribution system* in the *regulated SAPS* and a negative value where the flow is in the other direction); and
SAPSSP	=	the *SAPS settlement price* for the *financial year* in which the *trading interval* falls and the *regional reference node* for the *region* in which the *regulated SAPS* is located expressed in dollars per MWh.

(b) For the purposes of calculating ME under paragraph (a), for a *market connection point* for a *market generating unit*, *calculated metering data* must be used.

(c) A *trading amount* calculated under paragraph (a) for a *trading interval* must be included in the calculation of the *settlement amount* under clause 3.15.12.

CHAPTER 4

4. Power System Security

4.3 Power System Security Responsibilities and Obligations

4.3.5 Market Customer obligations

(a) All *Market Customers* having expected peak demands at *market connection points* ~~*connection points*~~ in excess of 10 MW, must provide automatic *interruptible load* of the type described in clause S5.1.10 of schedule 5.1. The level of this automatic *interruptible load* must be a minimum of 60% of their expected demand, or such other minimum *interruptible load* level as may be periodically determined by the *Reliability Panel*, to be progressively automatically *disconnected* following the occurrence of a *power system* under-*frequency* condition described in the *power system security standards*.

Note

This paragraph is classified as a tier 1 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) *Market Customers* must provide their *interruptible load* in manageable blocks spread over a number of steps within under-*frequency* bands from 49.0 Hz down to 47.0 Hz as nominated by *AEMO*.

Note

This paragraph is classified as a tier 1 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) Any *load shedding* capability the subject of an *ancillary services agreement* or *enabled* as a *market ancillary service* can be counted as automatic *interruptible load* provided for the purposes of clause 4.3.5.

CHAPTER 4A

4A. Retailer Reliability Obligation

Part D Liable Entities

4A.D.1 Application

This Part D applies in relation to each T-1 reliability instrument and a reference to:

(a) a matter is a reference to the matter for the *region* to which the T-1 reliability instrument applies;

(b) a *connection point* is a reference to a *market connection point* ~~*connection point*~~ in that *region*, but does not include a reference to a *market connection point* ~~*connection point*~~ in a *regulated SAPS*;

(c) a *reliability gap period* is a reference to that period stated in that T-1 reliability instrument;

(d) a T-3 reliability instrument is to be construed as a reference to the T-3 reliability instrument related to the T-1 reliability instrument (and vice versa); and

(e) a position day, opt-in cut-off day or opt-in register is a reference to those matters as stated in, or related to, that T-1 reliability instrument.

Part E Qualifying Contracts and Net Contract Position

Division 4 Adjustment of net contract position

4A.E.7 Adjustment of net contract position

(a) If an adjustment event occurs under paragraph (b), a liable entity may apply to the *AER* for approval to adjust its net contract position for a *region* in its NCP report for qualifying contracts entered into after the position day but only to the extent required to cover the increase in expected maximum demand during the gap trading intervals (**application for adjustment**).

(b) An adjustment event occurs if, after the position day:

(1) the number of *market connection points*~~*connection points*~~ for *small customers* in the *region* for which the liable entity is *financially responsible* changes such that the liable entity's expected maximum demand reported in its NCP report will increase by more than 10%;

(2) the number of *market connection points*~~*connection points*~~ for *large customers* (who are below the opt-in customer threshold) in the *region* for which the liable entity is *financially responsible* changes such that the liable entity's expected maximum demand reported in its NCP report will increase by more than 1%;

(3) the liable entity becomes *financially responsible* for a new *market connection point*~~*connection point*~~ established after the position day where the *large customer* at that *market connection point*~~*connection point*~~ is at or above the opt-in customer threshold such that the liable

entity's expected maximum demand reported in its NCP report will increase by more than 1%;

(4) a liable entity is transferred *retail customers* in the *region* in its capacity as a *RoLR*; or

(5) if the liable entity is an opt-in customer, that liable entity's expected maximum demand reported in its NCP report will increase by more than 1%.

(c) An application for adjustment must be made in accordance with the Contracts and Firmness Guidelines and include:

(1) the liable entity's revised NCP report, including the adjusted net contract position;

(2) information justifying the basis of the adjustment to the net contract position; and

(3) any other information required under the Contracts and Firmness Guidelines.

(d) The *AER* must approve or reject an application for adjustment in accordance with the criteria specified in the Contracts and Firmness Guidelines.

(e) If the *AER* rejects an application for adjustment, it:

(1) must give written reasons to the applicant for its rejection; and

(2) may approve an alternative adjustment to the liable entity's net contract position which the *AER* considers is consistent with the criteria specified in the Contracts and Firmness Guidelines.

(f) If the *AER* approves an application for adjustment, the adjusted net contract position will be taken to be the liable entity's net contract position as at the date of the *AER's* notification of its approval (**adjustment day**).

Part F Compliance with the Retailer Reliability Obligation

Division 1 Application

4A.F.1 Application

(a) This Part F applies in respect of a *region* if a T-1 reliability instrument has been made by the *AER* for that *region*.

(b) This Part F applies in relation to each T-1 reliability instrument and a reference to:

(1) a matter is a reference to the matter for the *region* to which the T-1 reliability instrument applies;

(2) a *reliability gap period*, gap trading interval and one-in-two year peak demand forecast, is a reference to those matters as stated in that T-1 reliability instrument; and

(3) a compliance TI or *PoLR TI* is a reference to those intervals which occur during the *reliability gap period* the subject of the T-1 instrument.

(c) In this Part F (other than this paragraph):

(1) a reference to a ~~*connection point*~~*market connection point* does not include a reference to a ~~*connection point*~~*market connection point* in a *regulated SAPS*; and

(2) the *adjusted gross energy* at a ~~*connection point*~~*market connection point* in a *regulated SAPS* must not be taken into account in determining liable load for a compliance TI.

Division 2 Key concepts

4A.F.3 Share of one-in-two year peak demand forecast

(a) For the purposes of section 14R(2) of the *NEL*, a liable entity's share of the one-in-two year peak demand forecast for a compliance TI (**liable share**) is calculated as follows:

$$LS = \left(\frac{LL}{HAPD}\right) \times OITPDF$$

where:

LS	=	the liable entity's liable share (in MW);
LL	=	the liable entity's liable load as determined under paragraph (b) (in MW);
HAPD	=	the highest adjusted peak demand occurring in a compliance TI in the relevant *reliability gap period* where adjusted peak demand is determined under paragraph (d) (in MW);
OITPDF	=	the one-in-two year peak demand forecast (in MW),

except that if OITPDF/HAPD > one, then it is taken to be equal to one.

Note

Section 14R(2) of the *NEL* states –

The liable entity must comply with the obligation that the liable entity's net contract position for the *trading interval* is not less than the liable entity's share of the one-in-two year peak demand forecast for the *trading interval* determined in accordance with the *Rules*.

Section 14R(2) is a reliability obligation civil penalty.

(b) A liable entity's liable load for a compliance TI is calculated as follows:

(1) if the liable entity is a *Market Participant*, determine the aggregate of the adjusted metered energy for each ~~*connection point*~~*market connection point* for which it is *financially responsible* for the compliance TI (less any adjusted metered energy allocated to a prescribed opt-in customer at one of those ~~*connection point*~~*market connection point*s and excluding any *market connection point* for a

market generating unit or *small generating unit*) based on the relevant *routine revised statements* for the *billing periods* relating to the *reliability gap period* given approximately 30 weeks after the relevant *billing period*;

(2) if the liable entity is not a *Market Participant*, determine the aggregate of the adjusted metered energy for each ~~*connection point*~~*market connection point* for which it is registered as an opt-in customer (or part thereof if it is a prescribed opt-in customer registered for a portion of the *load* at that ~~*connection point*~~*market connection point*) based on the relevant *routine revised statements* provided to the relevant *Market Participant* for the ~~*connection point*~~*market connection points* for the *billing periods* relating to the *reliability gap period* given approximately 30 weeks after the relevant *billing period*;

(2A) the adjusted metered energy for a ~~*connection point*~~*market connection point* for a compliance TI is calculated as follows:

AME = ME × DLF

where:

AME is the adjusted metered energy amount to be determined;

ME is the amount of electrical *energy*, expressed in MWh, flowing at the ~~*connection point*~~*market connection point* in the *trading interval*, as recorded in the *metering data* in respect of that ~~*connection point*~~*market connection point* and that *trading interval* (expressed as a positive value where the flow is towards the *transmission network* ~~*connection point*~~*market connection point* to which the ~~*connection point*~~*market connection point* is assigned and a negative value where the flow is in the other direction); and

DLF is the *distribution loss factor* applicable at that ~~*connection point*~~*market connection point*;

(3) adjust the quantity in subparagraph (1) or (2) (as applicable) by adding:

(i) the liable entity's measured actual demand response (other than *wholesale demand response*) under a qualifying contract at each ~~*connection point*~~*market connection point* for which it is *financially responsible* for the compliance TI, or registered if an opt-in customer, multiplied by the *distribution loss factor* for that ~~*connection point*~~*market connection point*; and

(ii) the *wholesale demand response settlement quantity* for each ~~*connection point*~~*market connection point* for which the liable entity is *financially responsible* for the compliance TI;

(4) adjust the quantities in subparagraphs (1), (2) and (3) (as applicable) for *intra-regional loss factors* at the *transmission network connection point* to which the ~~*connection point*~~*market connection point* is assigned; and

(5) multiply the final quantity by the number of *trading intervals* in an hour,

in each case, as determined in accordance with the *PoLR cost procedures*. To avoid doubt, a liable entity's demand is not to be adjusted for what its demand would have been but for *unserved energy* during a compliance TI.

(c) For a liable entity that is a *Market Participant*, a liable entity's liable load relates to the ~~*connection point*~~*market connection point*s for which that liable entity is *financially responsible* for a compliance TI and those ~~*connection point*~~*market connection point*s do not need to be the same ~~*connection point*~~*market connection point*s referred to in clause 4A.D.2.

(d) The adjusted peak demand for a compliance TI is the actual demand for the *region* in that compliance TI as determined under clause 4A.A.4(b) adjusted for:

(1) the measured actual demand response of all liable entities during that compliance TI (other than *wholesale demand response*) as determined in accordance with the *PoLR cost procedures*; and

(2) the *wholesale demand response settlement quantities* for that compliance TI for all ~~*connection point*~~*market connection point*s for which a liable entity is *financially responsible.*

CHAPTER 5A

5A. Electricity connection for retail customers

Part A Preliminary

5A.A.4 SAPS Resource Provider deemed to be agent of a retail customer

A *Market SAPS Resource Provider* is deemed to be the agent of a *retail customer* whose premises are *connected* to a *stand-alone distribution system* in a *regulated SAPS*, where there is an agreement between the *Market SAPS Resource Provider* and the *retail customer* relating to the *retail customer's small generating unit* under which the *Market SAPS Resource Provider* is *financially responsible* for the *market connection point* for the *small generating unit* or *small bidirectional unit*~~at which the relevant *generating unit* is *connected* to the *stand-alone distribution system*~~.

CHAPTER 6

6. Economic Regulation of Distribution Services

Part J Billing and Settlements

6.20.1 Billing for distribution services

(a) A *Distribution Network Service Provider* must bill *Distribution Network Users* for *distribution services* as follows:

(1) *Distribution Connected Resource Provider*:

(i) by applying the charge for *entry service* as a fixed annual charge to each *Distribution Connected Resource Provider*; and

(ii) by applying any other charge the *Distribution Network Service Provider* makes consistently with the *Rules* and the applicable distribution determination.

(2) *Distribution Customers*:

The charges to *Distribution Customers* must be determined according to use of the *distribution network* as determined in accordance with a *metrology procedure* or, in the absence of a *metrology procedure* allowing such a determination to be made, by *meter* or by agreement between the *Distribution Customer* and the *Distribution Network Service Provider* by applying one or more of the following measures:

(i) demand-based prices to the *Distribution Customer's* metered or agreed demand for *distribution services*;

(ii) energy-based prices to the *Distribution Customer's* metered or agreed energy consumption or export;

(iii) the *Distribution Customer* charge determined under this clause as a fixed periodic charge to each *Distribution Customer*;

(iv) a fixed periodic charge, a prepayment or other charge determined by agreement with the *Distribution Customer*;

(v) any other measure the *Distribution Network Service Provider* is authorised to apply by the applicable distribution determination.

(b) Subject to paragraphs (c) and (c1), where a *Distribution Customer* (other than a *Market Customer* or *Small Resource Aggregator*) incurs *distribution service* charges, the *Distribution Network Service Provider* must bill the *Market Customer* or *Small Resource Aggregator* from or to whom the *Distribution Customer* purchases or sells electricity directly or indirectly for such *distribution services* in accordance with paragraph (a)(2).

(c) If a *Distribution Customer* and the *Market Customer* or *Small Resource Aggregator* from or to whom the *Distribution Customer* purchases or sells electricity agree, the *Distribution Network Service Provider* may bill the *Distribution Customer* directly for *distribution services* used by that *Distribution Customer* in accordance with paragraph (a)(2).

(c1) For the purpose of paragraph (b), where:

(1) a *Market Customer* or *Small Resource Aggregator* (the **primary *Market Participant***) is *financially responsible* for the *connection point* for premises in respect of which a *Distribution Customer* referred to in paragraph (b) (other than a *Market Customer* or *Small Resource Aggregator*) has incurred *distribution service charges*; and

(2) another *Market Participant* is *financially responsible* for one or more *secondary settlement points* within the premises,

the *Distribution Network Service Provider* must bill the *distribution service charges* to the primary *Market Participant*.

(d) *Distribution Network Service Providers* must:

(1) calculate *transmission service* charges and *distribution service* charges for all *connection points* in their *distribution network*; and

(2) pay to *Transmission Network Service Providers* the *transmission service* charges incurred in respect of use of a *transmission network* at each *connection point* on the relevant *transmission network*.

(e) Charges for *distribution services* based on metered kW, kWh, kVA, or kVAh for:

(1) *Distribution Connected Resource Providers* that are *Market Participants*;

(2) *Market Customers* and *Small Resource Aggregators*;

(3) [**Deleted**]; and

(3A) *Non-Registered Customers*;

must be calculated by the *Distribution Network Service Provider* from:

(4) *settlements* ready *data* obtained from *AEMO's metering database*, for those *Distribution Connected Resource Providers*, *Market Customers* and *Non-Registered Customers* with *connection points* that have a type 1, 2 or 3 *metering installation*; and

(5) *metering data*, in accordance with a *metrology procedure* that allows the *Distribution Network Service Provider* to use *energy data* for this purpose, or otherwise *settlements ready data* obtained from *AEMO's metering database*, for those *Distribution Connected Resource Providers*, *Small Resource Aggregators*, *Market Customers* and *Non-Registered Customers* with *connection points* that have a type 4, 4A, 5, 6, 7, 8 or 9 ~~or 7~~ *metering installation*.

(f) Charges for *distribution services* based on metered kW, kWh, kVA or kVAh for:

(1) *Distribution Connected Resource Providers* that are not *Market Participants*; and

(2) [**Deleted**]

(3) *franchise customers*,

must be calculated by the *Distribution Network Service Provider* using data that is consistent with the *metering data* used by the relevant *Local Retailer* in determining *energy settlements*.

(g) The *Distribution Network Service Provider* may bill the relevant *Local Retailer* for *distribution services* used by *franchise customers*.

(h) Where the billing for a *Distribution Customer* for a particular *financial year* is based on quantities which are undefined until after the commencement of the *financial year*, charges must be estimated from the previous year's billing quantities with a reconciliation to be made when the actual billing quantities are known.

(i) Where the previous year's billing quantities are unavailable or no longer suitable, nominated quantities may be used as agreed between the parties.

CHAPTER 6B

6B. Retail markets

Part A Retail support

Division 1 Application and definitions

Division 2 Billing and payment rules

6B.A2.1 Obligation to pay

Subject to this Part, a *retailer* must pay to a *Distribution Network Service Provider* the *network charges* payable in respect of each *shared customer* by the *due date for payment*.

Note:

This clause is a conduct provision for the purpose of the NEL.

6B.A2.1A Premises with secondary settlement points

For the purpose of clause 6B.A2.1, where:

(a) a *retailer* (the **primary retailer**) is *financially responsible* for the *connection point* for premises; and

(b) another *Market Participant* is *financially responsible* for one or more *secondary settlement points* within the premises,

the *retailer* responsible for paying the *network charges* payable in respect of the *shared customer* at the premises is the primary retailer.

CHAPTER 7

7. Metering

Part A Introduction

7.1 Introduction to the Metering Chapter

7.1.2 Meaning of connection point in this Chapter

In this Chapter, excluding clause 7.2.6, *connection point* means each of the following:

(a) a *connection point* as defined in Chapter 10; and

(b) a *secondary settlement point*.

Part B Roles and Responsibilities

7.2 Role and Responsibility of financially responsible Market Participant

7.2.6 Establishing secondary settlement points within premises

(a) A *Market Participant* may establish a *metering installation* situated within the premises of an end user as a *secondary settlement point* if:

(1) the premises satisfy the criteria in paragraph (b); and

(2) the *metering installation* satisfies the criteria in paragraph (c); and

(3) the *Market Participant* is, or proposes to be, *financially responsible* for the *secondary settlement point*.

(b) For paragraph (a)(1), the criteria are that:

(1) electricity is supplied through the *national grid* to or from the premises;

(2) the *connection point* for the premises is not:

(i) a *connection point* for a *scheduled resource*; or

(ii) a *connection point* in a *regulated SAPS*;

(3) the *metering installation* for the *connection point* for the premises is a type 1, 2, 3, 4 or 9 *metering installation*; and

(4) a *financially responsible Market Participant* is participating in the *market* in respect of the *connection point* for the premises.

(c) For paragraph (a)(2), the criteria are that the *metering installation*:

(1) complies with the requirements of the *Rules* applicable to the *metering installation*;

(2) is not measuring the flow of electricity at a *child connection point* or any other point of *supply* to another end user's electrical installation within the premises; and

(3) unless the end user at the premises is a *small customer*, is not a type 8 *metering installation*.

7.3 Role and Responsibility of Metering Coordinator

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*~~.~~; or

(3) in relation to a type 8 *metering installation* that has been installed by, or on behalf of, the customer and subject to the *metrology procedure*, appoint a *Metering Provider* or *Metering Providers* for the commissioning and maintenance of that *metering installation*.

Note

This paragraph is classified as a tier 1 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)~~.~~; or

(iii) for the commissioning and maintenance of a type 8 *metering installation* that has been installed by, or on behalf of, the customer.

Note

This paragraph is classified as a tier 1 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 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 paragraph is classified as a tier 1 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*; and

(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*.

Note

This paragraph is classified as a tier 1 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* 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.

Note

This paragraph is classified as a tier 2 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) 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*.

Note

This paragraph is classified as a tier 1 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 data services

(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.

Note

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

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

Part C Appointment of Metering Coordinator

7.6 Appointment of Metering Coordinator

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 *small customer* or *large customer*) that connects, or is proposed to *connect*, a *generating system* or *integrated resource system* to a *distribution network*, by:

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

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

(iii) a person who owns, controls or operates the *generating system* or *integrated resource system* that is connected to the *distribution network* at the *connection point* and is exempt from the requirement to register as a *Generator* or *Integrated Resource Provider* under clause 2.1A.2(a); and

(2A) with respect to a *connection point* or proposed *connection point* that is on a *distribution network* and which connects that *distribution network* to an adjacent *distribution network* (other than an *embedded*

network) by the *Distribution Network Service Provider* responsible for appointing the *Metering Coordinator* at that *connection point* as determined by agreement between the two *Distribution Network Service Providers* related to that *connection point*.

(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* or (in the case of a *secondary settlement point*) within whose premises the *connection point* is located.

(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 *connection point* transfers to the new *financially responsible Market Participant*; and

(2) otherwise, on any other day.

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 paragraph is classified as a tier 1 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), except as provided for in paragraph (d).

Note

This paragraph is classified as a tier 1 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) Installation of a type 8 *metering installation* for a *secondary settlement point* may be carried out by any person qualified under applicable law to install the relevant *metering installation*.

(e) The *Metering Coordinator* at a *connection point* must ensure that there is not a type 8 *metering installation* at the connection point unless it is a *secondary settlement point* within the premises of a *small customer*.

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)~~:~~, provided by means of a device contained as part of the *metering installation* or, by some other means, made readily available to the customer with no delay;

Note

This subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 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, 4, 8 or 9~~or 4~~, has *electronic data transfer* facilities from the *metering installation* to the *metering data services database*;

Note

This subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 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, 4, 8 or 9 ~~or 4~~ *metering installation*;

Note

This subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(a1) *AEMO* may exempt a *Metering Provider* at a *connection point* from complying with the data storage requirements under subparagraph (a)(9) for type 4 *metering installations* that were installed prior to 1 December 2018. *AEMO* may only grant an exemption under this clause where it is reasonably satisfied that the *Metering Provider* will be able to otherwise satisfy the requirements of Chapter 7.

(a2) *AEMO* must establish, maintain and *publish* a procedure setting out the requirements for applying for an exemption under paragraph (a1).

(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*.

(b1) **[Deleted]**

(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 to the *financially responsible Market Participant* a unique *NMI* for each *metering installation*:

(i) on its *network*; or

(ii) for a *secondary settlement point* within premises *connected* to its *network*~~to the *financially responsible Market Participant*~~; and

Note

This subparagraph is classified as a tier 2 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 subparagraph is classified as a tier 2 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* or a *secondary settlement point* within premises *connected* to the *embedded network*;

(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 paragraph is classified as a tier 2 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* referred to in paragraph (ea)(1) ~~at a *child connection point* ~~ a unique *NMI* to the *Embedded Network Manager*.

Requirements for metering installations for non-market generating units and non-market bidirectional 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* or *non-market bidirectional 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) [**Deleted**]

(5) for units with a *nameplate rating* of equal to or less than 1 MW that are capable of recording *interval energy data*, 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 annual *sent out generation*; 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 *productions 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 small resource connection points

(g) In addition to the requirements for *metering installations* for *non-market generating units* and *non-market bidirectional units* in paragraph (f), the *Metering Coordinator* for a *small resource connection point* 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:

(1) unless subparagraph (2) applies, a type 4 *metering installation* that meets the *minimum services specification*; or

(2) for a *secondary settlement point* within the premises of the *small customer*, either a type 4 or a type 8 *metering installation* that (in either case) meets the *minimum services specification*.

Note

This paragraph is classified as a tier 2 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 services specification* in clause S7.5.1 and the procedures made under clause S7.5.2:

(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)(1) 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)(1) 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)(1), 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 paragraph is classified as a tier 3 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).

Note

This paragraph is classified as a tier 2 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) 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)(1) 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 paragraph is classified as a tier 3 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)(1) 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 paragraph is classified as a tier 3 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) 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*.

7.8.7 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 paragraph is classified as a tier 2 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* on an *embedded network*, 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.

7.8.10 Metering installation malfunctions

(a) Unless an exemption is obtained by the *Metering Coordinator* from *AEMO* under this clause 7.8.10 or paragraph (e) applies to the *metering installation*, the *Metering Coordinator* must, if a *metering installation malfunction* occurs, cause repairs to be made to the *metering installation* as soon as practicable but no later than the following date (as applicable):

(1) for a type 1, 2 or 3 *metering installation*, 2 *business days* after the *Metering Coordinator* has been notified of the *metering installation malfunction*; or

(2) for a *metering installation* at a *small customer's* premises:

(i) subject to subparagraph (ii), 15 *business days* after the *Metering Coordinator* has been notified of the *metering installation malfunction*; or

(ii) where the *Metering Coordinator* has become aware that repairing the *metering installation* requires interrupting *supply* to another "*small customer* or *large customer,* 30 *business days* after the *Metering Coordinator* has become aware of the need for that interruption; or

(3) for a *metering installation* other than the installations referred to in subparagraphs (1) and (2):

(i) subject to subparagraph (ii), 10 *business days* after the *Metering Coordinator* has been notified of the *metering installation malfunction*; or

(ii) where the *Metering Coordinator* has become aware that repairing the *metering installation* requires interrupting *supply* to another *small customer* or *large customer*, 30 *business days* after the *Metering Coordinator* has become aware of the need for that interruption.

Note

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

Note

This paragraph is classified as a tier 1 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* a procedure applicable to the provision of exemptions for the purpose of paragraph (a).

(c) If an exemption is provided by *AEMO* under this clause 7.8.10 then the *Metering Provider* must provide *AEMO* with a plan for the rectification of the *metering installation*.

Note

This paragraph is classified as a tier 2 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 paragraph (a) must notify the *Metering Coordinator* of the *metering installation malfunction* within 1 *business day*.

Note

This paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

(e) If a *metering installation malfunction* occurs in respect of a type 8 *metering installation* provided by a customer, the *financially responsible Market Participant* must:

(1) notify the customer of the need for repairs to the *metering installation* as soon as practicable but no later than 20 *business days* after the customer has been notified of the *metering installation malfunction*; and

(2) if those repairs are not undertaken within that period, designate the *secondary settlement point* at which the type 8 *metering installation* is located as inactive until such time as repairs are completed by the customer.

7.9 Inspection, Testing and Audit of Metering installations

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*~~,~~; and

(d) establishing *secondary settlement points*,

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, 4, 8 and 9 ~~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*;

(4A) the calculation, validation, estimation and substitution of *metering data* for a *metering installation* in a *regulated SAPS*;

(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.

7.10.5 Periodic energy metering

(a) The *Metering Data Provider* must, for:

(1) types 1, 2, 3, 8 and 9 ~~and 3~~ *metering installations*;

(2) types 4, 4A and 5 *metering installations* that are capable of providing *trading interval energy data*; and

(2A) *metering installations* for *market generating units* that *supply* electrical energy to a *stand-alone distribution system* in a *regulated SAPS,*

collate *metering data* relating to:

(3) the amount of *active energy*; and

(4) *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* on its *embedded network* and the *financially responsible Market Participant* that *metering data* may be recorded in sub-multiples of a *trading interval*.

(b) For type 6 *metering installations* and types 4, 4A and 5 *metering installations* that are not capable of providing *trading interval energy data*, *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*, including the algorithms;

(2) [**Deleted**]

(3) [**Deleted**]

(4) [**Deleted**]

(5) if required, the method of cost recovery in accordance with clause 7.5.2.

Note

This paragraph is classified as a tier 2 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 paragraph is classified as a tier 2 civil penalty provision under the National Electricity (South Australia) Regulations. (See clause 6(1) and Schedule 1 of the National Electricity (South Australia) Regulations.)

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

7.15 Security of metering installation and energy data

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 paragraph is classified as a tier 2 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 paragraph is classified as a tier 2 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 paragraph is classified as a tier 2 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 paragraph is classified as a tier 2 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, 4, 8 and 9 ~~and 4~~.

Note

This paragraph is classified as a tier 2 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 paragraph is classified as a tier 2 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 paragraph is classified as a tier 2 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;

(1A) in respect of a service listed in the *minimum services specification* for type 8 and type 9 *metering installations* made by *AEMO* under clause S7.5.2, and of *metering data* in connection with that service, an access party listed in that *minimum services specification*;

(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* on its *embedded network* 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 tier 2 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 energy 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 paragraph is classified as a tier 2 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 (c1), (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*;

(4A) in relation to a *metering installation* at a *connection point* in a *regulated SAPS*, in addition to the *Metering Data Provider* referred to in subparagraph (4), a *Metering Data Provider* appointed with respect to a *metering installation* at a *market connection point* for a *market generating unit* in the *regulated SAPS*, or who was previously appointed with respect to such a *metering installation* as required in accordance with the *Rules* and procedures authorised under the *Rules*;

(5) *AEMO* and its authorised agents; and

(5b) in relation to CDR data, a person who is authorised to access or receive that data in accordance with the CDR provisions;

(6) in relation to a *metering installation* at a *child connection point* on an *embedded network*, an *Embedded Network Manager*; and.

(7) without limiting subparagraph (1), in relation to a *metering installation* at a *secondary settlement point* within premises, the *Local Network Service Provider*.

(c1) The *AER* or *Jurisdictional Regulators* upon request to *AEMO* may access or receive *metering data*, *settlements ready data*, *NMI Standing Data*, and data from the *metering register* for a *metering installation.*

(d) In addition to the persons listed in paragraph (c), the following persons may access or receive *metering data* or *NMI Standing 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 *embedded network*~~*network*~~.

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

Part G Procedures

7.16 Procedures

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) If *AEMO* amends the *metrology procedure*, there must be a minimum period of 3 months between the date *AEMO publishes* the amended *metrology procedure* and the date it commences, unless the change is made using the *minor rules consultation procedure* in which case the effective date may be 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 by which *accumulated metering data* is to be converted by *AEMO* into *trading interval metering data*;

(iv) the method to be used by a *Metering Data Provider* to determine the *calculated metering data* for a *market connection point* for a *market generating unit* in a *regulated SAPS*, that will result in the allocation of *electrical energy losses* and unaccounted for *energy* in the *regulated SAPS* to the *market generating units* in the *regulated SAPS* on a reasonable basis; ~~and~~

(v) the method to be used by a *Metering Data Provider* to determine the *metering data* for a *secondary settlement point* or a *child connection point* where its *connection point* or *parent connection point* has been *deenergised* or *disconnected* or the *network* serving its *connection point* or *parent connection point* is experiencing an *outage*; and

(6A) procedures for the inclusion of *non-contestable unmetered load* in *settlements* including:

(i) the creation of a *NMI* for the *non-contestable unmetered load*;

(ii) the assignment of each *connection point* relating to *non-contestable unmetered load* to a *transmission connection point* or *virtual transmission node*;

(iii) the methodology for calculating a *load* and *load* profile for *non-contestable unmetered load*; and

(iv) the provision of the estimated volumes of *non-contestable unmetered load* to *AEMO* for inclusion in *settlements*; and

(7) requirements relating to the identification and recording of shared fuse arrangements for multiple *connection points* (**shared fuse arrangements**), including requirements:

(i) for *financially responsible Market Participants* and *Metering Coordinators* to notify the *Local Network Service Provider* of *connection points* with shared fuse arrangements as soon as practicable after becoming aware of the shared fuse arrangements;

(ii) for *Local Network Service Providers* to record all *connection points* with shared fuse arrangements as soon as practicable after becoming aware of the shared fuse arrangements;

(iii) relating to the information to be recorded for all *connection points* with shared fuse arrangements (**shared fuse information**);

(iv) relating to the management of shared fuse information; and

(v) relating to access to shared fuse information; and

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

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 connection point* that is a *secondary settlement point* or on a *network* where the owner, operator or controller of that *network* is not a *Registered Participant*;

~~(iv) metrology for a *market connection point* on 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 connection point* on a *network* where the operator or owner of that *network* is not a *Registered Participant*;~~

(v) the technical standards for *metering* of a *market connection point* that is a *secondary settlement point* or on a *network* where the operator, owner or controller 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*.

(b) 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*;

(5A) the requirements for the assignment of a *secondary settlement point* within premises to the *connection point* for the premises;

(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.

Schedule 7.1 Metering register

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* on an *embedded network*;

(5) details of the *Metering Coordinator*; and

(6) transfer date for *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 (eg *voltage* source limits; phase angle limits);

(4) *check metering* compensation details; and

(5) alternate data sources.

(e) Data processing prior to the *settlement* process.

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, and any type 8 *metering installation* provided and installed by or on behalf of a customer, 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, commissioning and maintenance of *metering installation* types 1, 2, 3, 4, 4A, 8 and 9 ~~and 4A~~ must be categorised in accordance with:

(1) Tables S7.2.2.1, S7.2.2.2 and S7.2.2.3;~~,~~ or

(2) 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 procedure*~~s~~.

(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

Category	Competency
1C	Class 0.2 CTs with < 0.1% uncertainty.
1V	Class 0.2 VTs with < 0.1% uncertainty.
1M	Class 0.2 Wh meters with < 0.1/cosφ% uncertainty and class 0.5 varh meters with <0.3/sinφ uncertainty.
1A	Class 0.2 CTs, VTs, Wh meters; class 0.5 varh meters; the total installation to 0.5%. Wh with < 0.2% uncertainty at unity *power factor*; 1.0% for varh with <0.4% uncertainty at zero *power factor*.
2C	Class 0.5 CTs with < 0.2% uncertainty.
2V	Class 0.5 VTs with < 0.2% uncertainty.
2M	Class 0.5 Wh meters with < 0.2/cosφ uncertainty and class 1.0 varh meters with <0.4/sinφ uncertainty.
2A	Class 0.5 CTs, VTs, Wh meters; class 1.0 varh meters; the total installation to 1.0%. Wh with < 0.4% uncertainty at unity *power factor*; 2.0% for varh with <0.5% uncertainty at zero *power factor*.

Table S7.2.2.2 Categories of registration for accreditation

Category	Competency
3M	Class 1.0 Wh meters with < 0.3/cosφ uncertainty and class 2.0 varh meters with <0.5/sinφ% uncertainty.
3A	Class 0.5 CTs, VTs; class 1.0 Wh meters; class 2.0% varh meters; the total installation to 1.5%. Wh with < 0.5% uncertainty at unity *power factor*; 3.0% for varh with <0.6% uncertainty at zero *power factor*.
4M	Class 1.0 Wh meters and class 1.5 Wh meters with <0.3/cosφ % uncertainty.
4A	Class 1.0 Wh meters and class 1.5 Wh meters with <0.3/cosφ % uncertainty.
4S	Class 1.0 Wh meters and class 1.5 Wh meters with <0.3/cosφ % uncertainty.
8M	Class 2 Wh meters with <0.3/cosφ % uncertainty.

Category	Competency
9M	Class 1.5 Wh meters with <0.3/cosφ % uncertainty.

Table S7.2.2.3 Categories of registration for accreditation

Category	Competency
L	Approved *communications interface* installer

Table S7.2.2.4 Categories of registration for accreditation

Category	Competency
5A Installation only	Class 1.0 and class 1.5 whole current Wh *meters* with <0.3/cosΦ% uncertainty.
6A Installation only	Class 1.5 whole current Wh *meters* with <0.3/cosΦ% uncertainty.
5B	Class 1.0 and class 1.5 whole current or CT connected Wh *meters* with <0.3/cosΦ% uncertainty.
6B	Class 1.5 whole current or CT connected Wh *meters* with 0.3</cosΦ% uncertainty.

S7.2.3 Capabilities of Metering Providers for metering installations types 1, 2, 3, 4, 4A, 8 and 9 ~~and 4A~~

Category 1A, 2A, 3A, 4M, ~~-~~ 8M ~~and 4M~~ and 9M *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*;

Type 8 – implementation of AS/NZ ISO 9002 to a level agreed with *AEMO*;

Type 9 – 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*.

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

Category 4S *Metering Providers* and categories of *Metering Providers* with accreditation for type 8 *metering installations* must be able to exhibit, to the reasonable satisfaction of *AEMO*:

(a) all of the capabilities in clause 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 type of

metering installation other than type 7 (that is, any of types 1, 2, 3, 4, 4A, 5, 6, 8 or 9 ~~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

S7.3.2 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

Metering installation **type**	**Categories of registration**	
1, 2, 3, 4, 8 and 9 ~~and/or 4~~	Category 1D, 2D, 3D, 4D, 8M and 9M ~~and/or 4D~~ (for *remote acquisition*, processing and delivery of *metering data* for *connection points*) Category 1SAPD, 2SAPD, 3SAPD and/or 4SAPD (for remote acquisition, calculation, processing and delivery of *calculated metering data* for *market connection points* for *market generating units* in a *regulated SAPS*)	Category 4S (for *small customer metering installations* in relation to *remote acquisition*, processing and delivery of *metering data* for *connection points*)
4A, 5 and/or 6	Category 4AC, 5C and/or 6C (for manual collection or *remote acquisition* of *metering data*)	Category 4AD, 5D and/or 6D (for manual collection, processing and delivery of *metering data* or for *remote acquisition*, processing and delivery of *metering data*)
7	Category 7D (for processing and delivery of *calculated metering data*) for a type 7 *metering*	

Metering installation **type**	**Categories of registration**
	installation

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*.

(b) When extended range *current transformers* are used, the overall accuracy requirements at loads greater than 100% rated load must not exceed the overall accuracy requirements specified within the *Rules* for 100% rated load.

(c) Extended range *current transformers* must not to be used beyond the limits of their extended range.

(d) For Type 4, 5 and 6 *metering installations* which are direct *connected* or have *current transformer*(s), the *Metering Provider* is permitted to demonstrate accuracy requirements of the *metering installation* by means of using a generic design. The generic design must consider the error limits for the class accuracy of the equipment and calculated or measured burden or loads to demonstrate compliance. Each generic design must include conditions under which it may be applied.

S7.4.3 Accuracy requirements for metering installations

(a) The maximum allowable overall error (±%) at different loads and power factors is set out in Table S7.4.3.2 to Table S7.4.3.7.

(b) All measurements in Tables S7.4.3.2 – S7.4.3.7 are to be referred to 25 degrees Celsius.

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

(1) a = the error of the voltage transformer and wiring;

(2) b = the error of the current transformer and wiring; and

(3) c = the error of the meter.

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

(d) The maximum allowable error of a type 5 or type 6 *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*.

(e) Where a subtractive metering arrangement is used (due to *secondary settlement points* or *child connection points*) the annual energy throughput is the total throughput for the *metering installation*, not the net throughput.

Table S7.4.3.1 Overall Accuracy Requirements of Metering Installation Components

Type	Volume limit per annum per connection point	~~Maximum allowable overall error (±%) at full load (Item 6)~~ ~~active~~	~~reactive~~	Minimum acceptable class or standard of components	Metering installation clock error (seconds) in reference to EST
1	greater than 1000GWh	~~0.5~~	~~1.0~~	0.2CT/VT/*meter* Wh 0.5 *meter* varh	±5
2	100 to 1000GWh	~~1.0~~	~~2.0~~	0.5CT/VT/*meter* Wh 1.0 *meter* varh	±7
3	0.75 to less than 100 GWh	~~1.5~~	~~3.0~~	0.5CT/VT 1.0 *meter* Wh 2.0 *meter* varh (Item 1)	±10
4	less than 750 MWh (Item 2)	~~1.5~~	~~n/a~~	Either 0.5 CT and 1.0 *meter* Wh; or whole current general purpose *meter* Wh: • meets the requirements of clause 7.8.2(a)(9); and • meets the requirements of clause 7.10.6(d). (Item 1) For type 4 *metering installations* that do not provide *trading interval energy data*, processes used to convert the *interval metering data* into *trading interval metering data* and *estimated metering data* where necessary are included in the *metrology procedure*.	±20 (Item 2a)

Type	Volume limit per annum per connection point	~~Maximum allowable overall error (±%) at full load (Item 6)~~ ~~active~~	~~reactive~~	Minimum acceptable class or standard of components	Metering installation clock error (seconds) in reference to EST
4A	less than x MWh Item 3	~~1.5~~	~~3.0~~	Either 0.5 CT and 1.0 *meter* Wh; or whole current general purpose *meter* Wh: • meets the requirements of clause 7.8.2(a)(10); and • has the capability, if remote access is activated, of providing the services in table S7.5.1.1; and • meets the requirements of clause 7.10.7(d). Processes used to convert the *interval metering data* for type 4A *metering installations* into *trading interval metering data* and *estimated metering data* where necessary are included in the *metrology procedure*.	±20 (Item 2a)
5	less than x MWh (Item 3)	~~1.5~~ ~~(Item 3b)~~	~~n/a~~	Either 0.5 CT and 1.0 *meter* Wh; or whole current general purpose *meter* Wh: • meets the requirements of clause 7.8.2(a)(10); and • meets the requirements of	±/-20 (Item 3a)

Type	Volume limit per annum per connection point	~~Maximum allowable overall error (±%) at full load (Item 6)~~ ~~active~~ ~~reactive~~		Minimum acceptable class or standard of components	Metering installation clock error (seconds) in reference to EST
				clause 7.10.7(d). Processes used to convert the *interval metering data* for type 5 *metering installations* into *trading interval metering data* and *estimated metering data* where necessary are included in the *metrology procedure*.	
6	less than y MWh (Item 4)	~~2.0~~ ~~(Item 4b)~~	~~n/a~~	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)	(Item 4a)
7	volume limit not specified (Item 5)	~~(Item 6)~~	~~n/a~~	No *meter*. The *metering data* is *calculated metering data* determined in accordance with the *metrology procedure*.	n/a
8	less than 750 MWh			Either 0.5 CT and 1.0 *meter* Wh; or whole current general purpose *meter* Wh: • meets the requirements of clause 7.8.2(a)(9);	±20 (Item 2a)

Type	Volume limit per annum per connection point	~~Maximum allowable overall error (±%) at full load (Item 6)~~ ~~active~~	~~reactive~~	Minimum acceptable class or standard of components	Metering installation clock error (seconds) in reference to EST
				and • meets the requirements of clause 7.10.6(d). (Item 1)	
9	less than 750 MWh (Item 5)			Either 0.5 CT and 1.0 *meter* Wh; or whole current general purpose *meter* Wh: • meets the requirements of clause 7.8.2(a)(9); and • meets the requirements of clause 7.10.6(d). (Item 1)	±20 (Item 2a)

Item 1: (a) For a type 3, 4, 4A, 5, 6, 8 or 9 ~~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, 4A, 8 or 9 ~~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* 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* 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*.

(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.~~[Deleted]

Item 7: The maximum allowable error of a type 8 or 9 *metering installation* may be relaxed in the *metrology procedure* to accommodate evolving technologies provided that such relaxation is consistent with any regulations published under the *National Measurement Act*.

Item 8: A type 9 *metering installation* may include a *central management system*.

Table S7.4.3.2 Type 1 Metering Installation Overall Accuracy Requirements – Annual Energy Throughput greater than 1,000 GWh

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	1.0%	1.0%	2.0%	Not used~~n/a~~	~~n/a~~Not used	1.4%
50	0.5%	0.5%	1.4%~~1.0%~~	0.7%	1.0%~~1.4%~~	1.0%
100	0.5%	0.5%	1.0%	Not used~~n/a~~	Not used~~n/a~~	1.0%

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

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	2.0%	2.0%	4.0%	Not used~~n/a~~	Not used~~n/a~~	2.8%
50	1.0%	1.0%	3.0%~~2.0%~~	1.5%	2.0%~~3.0%~~	2.0%

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
100	1.0%	1.0%	2.0%	Not used~~n/a~~	Not used~~n/a~~	2.0%

Table S7.4.3.4 Type 3 Metering Installation Overall Accuracy Requirements – Annual Energy Throughput from 0.75 GWh to less than 100 GWh and Type 4 Category 4S and Type 4A and Type 9 Metering Installation - Annual Energy Throughput less than 0.75 GWh

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	2.5%	2.5%	5.0%	Not used~~n/a~~	Not used~~n/a~~	4.0%
50	1.5%	1.5%	5.0%~~3.0%~~	2.5%	3.0%~~5.0%~~	3.0%
100	1.5%	1.5%	3.0%	Not used~~n/a~~	Not used~~n/a~~	3.0%

Table S7.4.3.5 Type 4 (other than Category 4S) or 5 Metering Installation Overall Accuracy Requirements ~~or 5 Installation~~ – Annual Energy Throughput less than 0.75 GWh

% Rated Load	Power Factor		
	Unity	0.866 lagging	0.5 lagging
	active	active	active
10	2.5%	2.5%	Not used~~n/a~~
50	1.5%	1.5%	2.5%
100	1.5%	1.5%	Not used~~n/a~~

Table S7.4.3.6 Type 6 Metering Installation Overall Accuracy Requirements – Annual Energy Throughput less than 0.75 GWh

% Rated Load	Power Factor		
	Unity	0.866 lagging	0.5 lagging
	active	active	active
10	3.0%	Not used~~n/a~~	Not used~~n/a~~
50	2.0%	Not used~~n/a~~	3.0%

% Rated Load	Power Factor		
	Unity	0.866 lagging	0.5 lagging
	active	active	active
100	2.0%	Not used~~n/a~~	Not used~~n/a~~

Table S7.4.3.7 Type 8 Metering Installation Overall Accuracy Requirements – Annual Energy Throughput less than 0.75 GWh

% Rated Load	Power Factor		
	Unity	0.866 lagging	0.5 lagging
	active	active	active
10	2.5%	2.5%	Not used
50	1.5%	1.5%	2.5%
100	2%	1.5%	Not used

~~**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:

Metering Installation Type in accordance with Table S7.2.3.1	Check Metering Requirements
1	*Check metering installation*
2	Partial *check metering*
3	No requirement
4, 4A, 5, 6, 8 and 9~~5 and 6~~	No requirement

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

(1) the provision of a separate *metering installation* using separate *current transformer* cores and separately fused *voltage transformer* secondary circuits, preferably from separate secondary windings: or

(2) if in *AEMO's* absolute discretion it is considered appropriate, in the case of a *metering installation* located at the *facility* at one end of the *two-terminal link*, a *metering installation* located at the *facility* at the other end of a *two-terminal link*.

(c) Where the *check metering installation* duplicates the *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 *trading interval* 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*.

Schedule 7.5 Requirements of minimum services specification

S7.5.1 Minimum services specification other than for type 8 and 9 metering installations

A *metering installation* (other than a type 8 or 9 *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

1.	Service	2. Description	3. Access Party
(a)	remote *disconnection* service	The remote *disconnection* of a *small customer's* premises via the *metering installation*.	*Local Network Service Provider* *financially responsible Market Participant*
(b)	remote *reconnection*	The remote *reconnection* of a	*Local Network Service*

1.	Service	2. Description	3. Access Party
	service	*small customer's* premises via the *metering installation*.	*Provider* *financially responsible Market Participant* *Incoming Retailer*
(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: • *reactive energy metering data* and/or *active energy metering data* (for imports and/or exports of *energy* measured by the *meter*); • *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.	*Registered Participants* with a financial interest in the *metering installation* or the *energy* measured by that *metering installation* A person to whom a *small customer* has given its consent under clause 7.15.4(b)(3)(ii) A *Local Network Service Provider* for a *secondary settlement point* located within premises connected to its *network*
(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: • *reactive energy metering data* and/or *active energy metering data* (for imports and/or exports of *energy* measured by the *meter*); • *interval metering data* and cumulative total	*Registered Participants* with a financial interest in the *metering installation* or the *energy* measured by that *metering installation* A person to whom a *small customer* has given its consent under clause 7.15.4(b)(3)(ii) A *Local Network Service Provider* for a *secondary settlement point* located within premises *connected* to its *network*

1. Service	2. Description	3. Access Party
	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: • the status of the switch used to effect the *disconnection* and *reconnection* services; • the *voltage* as measured by the *metering installation*, with a date and *time stamp* for that reading; • the current as measured by the *metering installation*, with a date and *time stamp* for that reading; • the power (watts) as measured by the *metering installation*, with a date and *time stamp* for that reading; • the supply frequency (Hertz) as measured by the *metering installation*, with a date and *time stamp* for that reading; • the average *voltage* and current over a	*Local Network Service Provider* *financially responsible Market Participant* A person to whom a *small customer* has given its consent under clause 7.15.4(b)(3)(ii)

1. Service	2. Description	3. Access Party
	nominated *trading interval* for one or more nominated *trading intervals*; and • events that have been recorded in *meter* log (or logs) including recorded information in the tamper detection alarm, reverse energy flow alarm and *metering* device temperature alarm.	
(f) advanced *meter* reconfiguration service	The remote setting of the operational parameters of the *meter*. The operational parameters that must be capable of being set are, as a minimum, the following: • the activation or deactivation of a data stream or data streams; and • altering the method of presenting *energy data* and associated information on the *meter* display.	*Local Network Service Provider* *financially responsible Market Participant*

S7.5.2 Minimum services specification for type 8 and 9 metering installations

(a) *AEMO* must establish, maintain and *publish* procedures that set out each service required to be provided by type 8 and 9 *metering installations.*

(b) In making procedures under paragraph (a), *AEMO* must have regard to the principle that a service provided by a type 8 or 9 *metering installation* must:

(1) comply with any applicable requirements of the *National Measurement Act*;

(2) provide for the recording of sufficient historical data consistent with current requirements of the *Rules*;

(3) provide for the remote retrieval of *metering data*; and

(4) provide for *interval energy data* to be prepared and recorded in intervals which correspond to a *trading interval*.

(c) A type 8 or type 9 *metering installation* meets the *minimum services specification* if it:

(1) is capable of providing the services specified for the relevant type of *metering installations* in the procedures made under paragraph (a);

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

(3) achieves the maximum allowable overall error (±%) at rates not exceeding the rates set out in table S7.4.3.5 or S7.4.3.7 (as applicable).

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 (±)

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

Where cosφ 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.

Description	Metering Installation Type				
	Type 1	Type 2	Type 3	Type 4, 4A, 8 and 9 ~~& 4A~~	Types 5 & 6
CT	10 years	10 years	10 years	10 years	10 years
VT	10 years	10 years	10 years		n/a
Burden tests	When *meters* are tested or when changes are made				
CT connected Meter (electronic)	5 years	5 years	5 years	5 years	5 years

Description	Metering Installation Type				
	Type 1	Type 2	Type 3	Type 4, 4A, 8 and 9 ~~& 4A~~	Types 5 & 6
CT connected Meter (induction)	2.5 years	2.5 years	5 years	5 years	5 years
Whole current Meter	The testing ~~and inspection~~ requirements must be in accordance with an asset management strategy. Guidelines for the development of the asset management strategy must be recorded in the *metrology procedure*.				

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.

Description	Metering Installation Type			
	Type 1	Type 2	Type 3	Type 4, 4A, 5, 6, 8 and 9 ~~& 6~~
Metering installation equipment inspection (other than whole current)	2.5 years	12 months (2.5 years if *check metering installation* installed)	2.5 years~~> 10 GWh: 2 years~~ ~~2≤ GWh ≤ 10: 3 years~~ ~~<2 GWh: when *meter* is tested.~~	~~When *meter* is tested.~~5 years
Whole current *metering installation*	The inspection requirements must be in accordance with an asset management strategy. Guidelines for the development of the asset management strategy must be recorded in the *metrology procedure*.			

Schedule 7.7 Embedded Network Managers

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 *NEL* 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 Coordinators*~~*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*.

CHAPTER 10

10. Glossary

active energy

A measure of electrical energy flow, being the time integral of the product of *voltage* and the in-phase component of current flow across a *connection point* or *secondary settlement point*, expressed in watthour (Wh).

central management system

A device or system that collects electronic signals from *measurement elements* and packages it into *trading intervals*. The device or system may contain *energy data* storage and display capability for a *metering installation*.

connection point

In relation to a *declared shared network* and a *distribution network* (other than an *embedded network*), the agreed point of supply established between *Network Service Provider*(s) and another *Registered Participant*, *Non-Registered Customer* or *franchise customer* and includes a *parent connection point*.

In relation to other *transmission networks*, the point at which power flows to or from a person *connected* to the *transmission network* can be isolated from the *transmission network*. If there is more than one such point, the *Network Service Provider* and that person will agree which point is the *connection point* in their *connection agreement*.

In relation to an *embedded network*, the *child connection point*, unless otherwise specified.

Note:

In the context of Chapter 7, the above definition has been displaced by a definition specifically applicable to that Chapter. Refer to clause 7.1.2.

Incoming Retailer

A *retailer* that:

(a) has a contract with a customer at a *connection point* or *secondary settlement point*; and

(b) has initiated the customer transfer process in accordance with the *Market Settlement and Transfer Solution Procedures*,

but which is not yet designated the *financially responsible Market Participant* for that *connection point* or *secondary settlement point*.

interval energy data

The data that results from the measurement of the flow of electricity in a power conductor where the data is prepared and recorded by the *metering installation* in intervals which:

(a) for:

(1) types 1, 2, 3, 8 and 9 ~~and 3~~ *metering installations*; and

(2) types 4, 4A and 5 *metering installations* that are capable of providing such data at intervals that correspond to a *trading interval*,

correspond to a *trading interval* or are submultiples of a *trading interval*; and

(b) for types 4, 4A, and 5 *metering installations* that are not capable of providing such data in intervals which correspond to a *trading interval*, correspond to a *30-minute period* or are submultiples of a *30-minute period*.

Interval energy data is held in the *metering installation*.

market connection point

A ~~*connection point*~~:

(a) connection point or secondary settlement point classified in accordance with Chapter 2 as a market connection point;

(b) connection point which connects any market generating unit to the national grid;

(c) connection point which connects any market bidirectional unit to the national grid; or

(d) connection point where the network service connected at that connection point is a market network service.

Market Customer

A *Customer* in relation to the *connection points* or *secondary settlement points* it has classified as *market connection points* under Chapter 2.

An *Integrated Resource Provider* in relation to the *connection points* or *secondary settlement points* it has classified as *market connection points* under clause 2.3.4(b).

Market Settlement and Transfer Solution Procedures

The procedures from time to time *published* by *AEMO* under clause 7.16.2 which include those governing:

(a) the recording of financial responsibility for *energy* flows at a *connection point* or a *secondary settlement point*, the transfer of that responsibility between *Market Participants* and the recording of *energy* flows at a *connection point* or *secondary settlement point*; and

(b) the recording of the classification of a *connection point* as a *wholesale demand response unit* and the *Demand Response Service Provider* responsible for the *wholesale demand response unit*.

metering installation

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

Note:

(1) The assembly of components may include the combination of several *metering points* to derive the *metering data* for a *connection point*.

~~(2) The *metering installation* must be classified as being for revenue purposes~~

new connection

Has (in the context of Chapter 5A and Chapter 7) the meaning given in clause 5A.A.1

NMI Standing Data

The following data in respect of a *connection point* (which for the purposes of this definition, is taken to include a *secondary settlement point*):

(a) the *NMI* of the *connection point* and the street address of the relevant *connection point* to which that *NMI* is referable;

(b) the *NMI* checksum for the *connection point*;

(c) the identity of the *Local Network Service Provider* or, if the *connection point* is a *child connection point* on an *embedded network*, the identity of the *Embedded Network Manager* and the *Exempt Embedded Network Service Provider*;

(d) the code (known as a TNI) identifying the relevant *transmission node* which identifies the *intra-regional loss factor* and/or *transmission use of system* charge for the *connection point* and, if the *connection point* is a *child connection point* on an *embedded network*, the *NMI* of the *parent connection point* on that *embedded network*;

(e) the relevant *distribution loss factor* applicable to the *connection point*;

(f) the Network Tariff (identified by a code) applicable in respect of the *connection point*;

(g) the *NMI* classification code (as set out in the *Market Settlement and Transfer Solution Procedures*) of the *connection point*;

(h) the read cycle date, or date of next scheduled read or date in a relevant code representing the read cycle date or date of next scheduled read, for that *connection point*;

(i) the profile type applicable to the *connection point*; and

(j) such other categories of data as may be referred to in the *Market Settlement and Transfer Solution Procedures* as forming *NMI Standing Data*,

and, for the avoidance of doubt, does not include any *metering data* or other details of an end-user's consumption at that *connection point*.

Non-Registered Customer

Any person who purchases electricity through a connection point with the *national grid*, or through a *secondary settlement point*, other than from the *spot market*.

secondary settlement point

A *metering installation* within the premises of an end user that has been established as a *secondary settlement point* in accordance with clause 7.2.6.

small customer metering installation

A *metering installation* in respect of the *connection point* or *secondary settlement point* of a *small customer* which meets the *minimum services specification* or which is required to meet the *minimum services specification* under clause 7.8.3(a), clause 7.8.4(c) or clause 7.8.4(h)(2).

Small Resource Aggregator

An *Integrated Resource Provider* who has classified a *small resource connection point* or *small resource secondary settlement point* as one of its *market connection points* in accordance with clause 2.2.8.

small resource connection point

A *connection point* that *connects* one or more *small generating units* or *small bidirectional units* (or any combination) to the *national grid*, where the only *supply* to the *connection point* is:

(a) for use by a *small bidirectional unit connected* at the *connection point*; or

(b) *auxiliary load* of a *small generating unit* or *small bidirectional unit connected* at the *connection point*.

small resource secondary settlement point

A *secondary settlement point* for one or more *small generating units* or *small bidirectional units* (or any combination), where the only *supply* to the *secondary settlement point* is:

(a) for use by a *small bidirectional unit* in respect of which the flow of electrical *energy* is determined at the *secondary settlement point*; or

(b) *auxiliary load* of a *small generating unit* or *small bidirectional unit* in respect of which the flow of electrical *energy* is determined at the *secondary settlement point*.

spot price

The price for electricity in a *trading interval* at a *regional reference node* ~~or a *connection point*~~ as determined in accordance with clause 3.9.2.

SRA customer

A person who owns, operates or controls, or proposes to own, operate or control, a *small generating unit* or *small bidirectional unit* and who has an agreement with a *Small Resource Aggregator* relating to the *small generating unit* or *small bidirectional unit* (as the case may be) under which the *Small Resource Aggregator* is *financially responsible* for the *small resource connection point* or *small resource secondary settlement point* for the relevant unit.

11. Savings and Transitional Rules

Part ZZZZZI 2024 Savings and Transitional Rules

11.[XXX] Rules consequential on the making of the draft National Electricity Amendment (Unlocking CER benefits through flexible trading) Rule 2024

11.[XXX].1 Definitions

In this rule 11.[XXX]:

Amending Rule means the draft *National Electricity Amendment (Unlocking CER benefits through flexible trading) Rule 2024*.

effective date means 2 February 2026, being the date of commencement of Schedule 1 of the Amending Rule.

market body means each of *AEMO* and the *AER*.

11.[XXX].2 Amendments to documents published under the Rules

(a) By the effective date, each market body must review and, where the market body considers it necessary or desirable, amend and *publish* procedures, guidelines and other documents made by the market body under the *Rules* to take into account the Amending Rule.

(b) In amending the documents referred to in paragraph (a), the market body must follow the process for amending those documents (if any) specified in the *Rules*.

(c) A market body may make minor or administrative amendments to the documents referred to in paragraph (a) without following the process for amending those documents (if any) specified in the *Rules*.

(d) Amendments made in accordance with paragraph (a) must take effect on and from the effective date or any earlier time specified by the relevant market body.