

## ATTACHMENT B

Based on a clean copy of the Rules, issued by MCE, in force on 1 July 2005

Proposed Rule changes for Project 1 “metrology procedure” and LNSP derogations

# 7. Metering{ XE “metering” }

### Editorial Notes:

1. The changes to Chapter 7 as proposed in this version have been designed to meet the relevant recommendations contained in the Joint Jurisdictional Regulators Review, dated October 2004 (JJR recommendations).
2. The changes presented in this version represent changes to the content, layout and structure of Chapter 7 that relate to Project 1 only. The changes are made:
  - a. to allow the current jurisdictional metrology procedures (5 different documents) and the Type 1 to 4 metrology procedures (4 different documents) to be recognised as a single document, and
  - b. to allow the current jurisdictional derogations (as found in Chapter 9 of the Rules) for the LNSP to be the responsible person under certain conditions to be replaced by permanent provisions in Chapter 7 which align to the recommendations arising from the Joint Jurisdictional Regulators review dated October 2004.
3. The major changes in regard to the single NEM metrology procedure are associated with the replacement of the Metrology Coordinator (clause 7.2.1A) with NEMMCO (clause 7.2.1B), and the transfer of paragraphs specific to the metrology procedure from clause 7.3.1 to clause 7.3.2A, including appropriate adjustments.
4. The major changes in regard to the establishment of the LNSP as the exclusive responsible person for metering installations types 5,6,7 are found in changes to the election process (clause 7.2.0, 7.2.2, 7.2.3(aa)), the additional responsibilities assigned in clause 7.2.5 and 7.3.4, and the changes to data delivery performance standards (clauses 7.11(a) and 7.11(aa)). These changes should allow the current derogations in Chapter 9 to fall away in December 2006 without the need for renewal of the derogations.
5. Other changes required by the Joint Jurisdictional Regulators recommendations regarding requirements for meter reversion and interval meter reading (clauses 7.2.5), and reports and reviews (clause 7.13) have been included in these Chapter 7 changes.
6. Changes to Chapter 7 that are required to improve the content, layout or structure of the Chapter have been deferred as issues, and will be considered in Project 3 “Restructure of Chapter 7” (that is, after the changes to Chapter 7 have been made for Projects 1 and 2). These issues have been formally registered by NEMMCO. A consolidated summary of the issues will be provided as part of the Project 1 consultation process.
7. The plural term ‘metrology procedures’ may, in the future, be used to represent a family of procedures. For Project 1, the term ‘metrology procedure’ has been limited to a single document.
8. For assessment, the relevant clause in the Chapter 9 that are to be deleted as a consequence of the proposed changes to Chapter 7 are referenced after clause 7.13 and before the Glossary terms.
9. For ease of review, the new, altered and deleted Glossary terms that have been introduced by this version of Chapter 7 have been located after clause 7.13 and before Schedule 7.1.]

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### 7.1 Introduction to the Metering Chapter

#### 7.1.1 Application to Market Customers and Local Retailers

- (a) This Chapter only applies to a *Market Customer* in respect of:
  - (1) *connection points* through which it purchases any *market load*; and
  - (2) *connection points* through which it sells any *second-tier load*.
- (b) This Chapter only applies to a *Local Retailer* in respect of *connection points* at which *load* may be classified as a *first-tier load* (whether so classified or not) and then only to the extent required by the *Market Settlement and Transfer Solution Procedures* and *B2B Procedures*.

#### 7.1.2 Purpose of metering chapter

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

#### 7.1.3 [Deleted]

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### 7.1.4 Obligations of Market Participants{ XE “obligations” } to establish metering installations{ XE “metering installation” }

(a) Before participating in the *market* in respect of a *connection point*, a *Market Participant* must ensure that:

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

[Clauses (7.1.4(a) and 7.1.4(a)(1)) have been revised in accordance with the outcomes of the legal review]

(2) it has sought an offer and if accepted, entered into an agreement under clause 7.2.2 or it has complied with clause 7.2.3 in relation to that *metering installation* and has advised the *Local Network Service Provider* accordingly; and

(3) prior to registration a *NMI* has been obtained by the *responsible person* for the *metering installation*.

(b) *NEMMCO* may refuse to permit a *Market Participant* to participate in the *market* in respect of any *connection point* in relation to which that *Market Participant* is not in compliance with its obligations under clause 7.1.4(a).

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## 7.2 Responsibility for Metering Installation

### 7.2.0 Responsible Person

Each *Local Network Service Provider* is responsible the responsible person for the provision of metering installations to *Market Participants* connected to, or proposing proposed to be connected to, the *Local Network Service Provider's* network in its local area and the installation and maintenance of those metering installations unless otherwise elected by the unless a *Market Participant* elects to be the responsible person in respect of any type 1, type 2, type 3 or type 4 metering installation in accordance with clause 7.2.3(aa).

[Clause 7.2.0 has been relocated from clause 7.2.2(aa) to improve the understanding of the choice available to the Market Participant and the LNSP. The following changes to the original text have been made: (1) the reference to ‘responsible for the provision of’ has been replaced by direct reference to the *responsible person* to recognise that this clause now has the status of a ‘lead-in’ clause and the previous relationship with clause 7.2.1(a) has been altered, and (2) additional text has been added to the end of the paragraph to provide a method of controlling the range of metering installations available to both the Market Participant and the LNSP (that is, the additional text defines that the Market Participant can elect to be the responsible person in limited circumstances, as specified in clause 7.2.3(aa))]

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### 7.2.1 Responsible person's responsibilities

- (a) The ~~person who has responsibility~~ responsible person is responsible for the provision, installation and maintenance of a *metering installation* ~~is the responsible person, in accordance with Chapter 7 and the metrology procedure;~~

[This clause has been altered to align with the relocation of clause 7.2.2(aa) to its new position as clause 7.2.0, and the subsequent variation to clause 7.2.0. The original paragraph has been preserved by way of its inclusion in the existing Glossary term ‘responsible person’, which remains unaltered. Please note that the term ‘metering installation’ infers reference to the range of Metering Provider services (including metering data services) that are required for types 5, 6,7 metering installations. The diagram in Schedule 7.1 has been modified to convey this underlying meaning. The expression “in accordance with Chapter 7 and the metrology procedure” has been transferred from clause 7.2.2(b)(1) to allow that clause to be deleted]

- (b) NEMMCO must establish guidelines, in accordance with the *Rules consultation procedures*, on the role of the *responsible person* as required by the *Rules*;

- ~~(c) If a Market Participant elects not to request an offer from or does not accept the offer of the Local Network Service Provider for the provision of a metering installation under clause 7.2.2, or if an agreement under clause 7.2.2 is terminated due to breach by the Market Participant, the Market Participant~~  
The responsible person must:

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[Clause 7.2.1(c) was transferred from clause 7.2.3(a). The changes are consequential to the relocation]

- (1) ~~will be the~~ undertake the duties of the *responsible person* for that *metering installation*, in accordance with ~~this~~ Chapter 7 and the ~~applicable~~ *metrology procedure*;

[Clause 7.2.1(c)(1) was clause 7.2.3(a)(1a). The changes are partly consequential to the relocation, partly as an outcome of legal review and partly a consequence to the changes in the metrology procedure arrangements]

- (2) ~~will have responsibility for arranging for the provision, installation and maintenance of the relevant metering installation and for this purpose, must engage a Metering Provider(s) registered by NEMMCO for to~~ conduct the relevant work or, where the *Market Participant responsible person* is required to do so ~~in accordance with a relevant~~ by the *metrology procedure*, allow another person to engage a *Metering Provider* ~~registered by NEMMCO~~ to install the relevant *metering installation*;

[Clause 7.2.1(c)(2) was proposed for two locations: originally in clause 7.2.3(a)(1) and proposed for clause 7.2.2(c)(1). This new

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location removes the duplication and consolidates the responsible person duties in the one location. The changes to this clause are partly consequential to the relocation and partly as an outcome of legal review]

- (3) enter into an agreement with ~~the~~a *Metering Provider(s)* ~~which~~ that includes the terms and conditions for the provision, installation and maintenance of the *metering installation* by the *Metering Provider* or, where a ~~Market Participant~~ responsible person allows another person to engage a *Metering Provider* in accordance with clause ~~7.2.3(a)(1)~~ 7.2.1(c)(2), ~~must~~ enter into an agreement with a *Metering Provider* ~~in relation to the terms and conditions for the maintenance of the metering installation;~~ and

[Clause 7.2.1(c)(3) was proposed for two locations: originally in clause 7.2.3(a)(2) and proposed for clause 7.2.2(c)(2). This new location removes the duplication and consolidates the responsible person duties in the one location. The changes are partly consequential to the relocation and partly as an outcome of legal review]

- (4) provide *NEMMCO* with the relevant details of the *metering installation* ~~in accordance with~~ contained in schedule 7.5 within 10 *business days* of entering into an agreement with the *Metering Provider(s)*;

[Clause 7.2.1(c)(4) was proposed for two locations: originally in clause 7.2.3(a)(3) and proposed for clause 7.2.2(c)(4). This new location removes the duplication and consolidates the responsible person duties in the one location. The changes are an outcome of legal review]

- (d) ~~For the avoidance of doubt, n~~ Nothing in clause ~~7.2.3(a)~~ 7.2.1(c) prevents a ~~Market Participant~~ responsible person electing to terminate its clause 7.2.1(c)(3) agreement with a *Metering Provider(s)* after installation of a *meter* and entering into a new agreement with another *Metering Provider* for the maintenance of the *metering installation*.

[Clause 7.2.1(d) was clause 7.2.3(b). This new location consolidates the responsible person duties in the one location. The changes are partly consequential to the relocation and partly as an outcome of legal review]

**7.2.1A Responsibility of Metrology Coordinator ~~[Deleted]~~**

- (a) [Deleted]
- (b) [Deleted]
- (c) [Deleted]
- (d) [Deleted]

Deleted: { XE “Responsibility of metrology coordinator”}

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- (e) [Deleted]
- (f) ~~The Metrology Coordinator is responsible for the design and approval of those metrology procedures that will apply to metering installations in accordance with clause 7.3.1(ba)(2) at connection points in the participating jurisdiction of that Metrology Coordinator.~~[Deleted]
- (g) ~~The Metrology Coordinator is responsible for providing the approved metrology procedure to NEMMCO.~~[Deleted]
- (h) ~~A Metrology Coordinator may not approve more than one metrology procedure for each type of metering installation within the participating jurisdiction of that Metrology Coordinator.~~[Deleted]

[It is proposed that the term “Metrology Co-ordinator” be deleted from the Rules, and that the relevant responsibilities of Metrology Coordinator be specifically assigned to NEMMCO. This will simplify the document and assist in industry understanding and compliance]

**7.2.1B Responsibility of NEMMCO**

NEMMCO is responsible for the development, approval and publication of the metrology procedure that will apply to metering installations in accordance with clause 7.3.2A.

[Clause 7.2.1B assigns all responsibility for Metrology Procedures to NEMMCO as implied by JJR recommendation 3.3. The clause is a repeat of clause 7.2.1(f) with suitable adjustments, including the replacement of ‘design’ with ‘development’, the deletion of ‘approval’ and the addition of a publication requirement. The concept of NEMMCO approval is no longer relevant under this new arrangement]

**7.2.2 Responsibility of Local Network Service Provider { XE “Local Network Service Provider” }**

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- (aa) ~~Each Local Network Service Provider is responsible for the provision of metering installations to Market Participants connected to, or proposing to connect to, the Local Network Service Provider’s network in its local area and the installation and maintenance of those metering installations unless otherwise elected by the Market Participant.~~[Deleted]

[Clause 7.2.2(aa) has been relocated to clause 7.2.0 to provide an improved understanding of the election rights and obligations for both the Market Participant and the LNSP. Consequently, the clause has been deleted]

- (a) ~~No later than 15 business days after a Local Network Service Provider receives a request in writing from a Market Participant to assume responsibility for a metering installation Where a type 1, type 2, type 3 or type 4 metering installation is, or is to be, installed, the Local Network Service Provider must offer to provide, install, routinely test and maintain the relevant act as the responsible person in respect of that metering installation of the Market~~

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~~*Participant and must inform the Market Participant of and provide*~~ the terms and conditions on which the offer is made to the Market Participant no later than 15 business days after the Market Participant’s written request to provide the offer is received by the Local Network Service Provider;

[Clause (7.2.2(a) has been revised in accordance with the outcomes of the legal review and jurisdictional comment. The drafting of the clause has been changed to improve its presentation. The reference to types 1 to 4 metering installation has been added to improve the understanding of the clause now that a restriction applies to the Market Participant’s choice to be the responsible person]

(ab) Where a type 5, type 6 or type 7 metering installation is, or is to be, installed:

[Clause 7.2.2(ab) has been added to provide the rights available to the distributor in the current derogation in Chapter 9 of the Rules. A separate clause to 7.2.2(a) is required because the LNSP is the exclusive responsible person for these types of metering installations. This clause transfers the main points contained in the relevant part of Chapter 9 of the Rules (note that the Chapter 9 clauses will be deleted as part of this transfer). For example of a relevant clause, please refer to clause 9.9A.2 for Victoria]

(1) the Market Participant must request an offer from the Local Network Service Provider to act as the responsible person for that metering installation;

[Clause 7.2.2(ab)(1) is a transfer of a main point contained in the relevant part of Chapter 9 of the Rules (for example, refer to clause 9.9A.2(b)(i) for Victoria)]

(2) no later than 15 business days after a Local Network Service Provider receives the Market Participant’s request under clause 7.2.2(ab)(1), the Local Network Service Provider must make an offer to the Market Participant setting out the terms and conditions on which it will agree to act as the responsible person;

[Clause 7.2.2(ab)(2) is a copy of clause 7.2.2(a) suitably modified to enable it to be applied to the type 5, type 6 and type 7 metering installation]

(3) the Market Participant may accept the offer, or dispute the offer, in which case the matter will be resolved using the clause 8.2 dispute resolution process;

[Clause 7.2.2(ab)(3) is a transfer of a main point contained in the relevant part of Chapter 9 of the Rules (for example, refer to clause 9.9A.2(b)(ii) for Victoria). The clause has been revised in accordance with the outcome of legal review]

(ac) The terms and conditions of an offer made by the Local Network Service Provider under clause 7.2.2(ab) must:

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- (1) be fair and reasonable; and
- (2) not unreasonably discriminate, or have the effect of discriminating unreasonably, between Market Participants, or between the customers of any Market Participant;

[Clause 7.2.2(ac) has been added to provide the rights available to the Market Participant in the current derogation in Chapter 9 of the Rules. For example, refer to clause 9.9A.2(c) for Victoria]

- (b) If the *Market Participant* accepts ~~the offer made under a~~ clause 7.2.2(a) or 7.2.2(ab) offer, the *Local Network Service Provider* is the responsible person;

[Clause 7.2.2(b) has been revised in accordance with the deletion of clauses 7.2.2(b)(1) and 7.2.2(b)(2)]

- (1) ~~thereafter has responsibility for the provision, installation and maintenance of that Market Participant’s metering installation, in accordance with this Chapter 7 and the applicable metrology procedure;~~ and ~~[Deleted]~~

[Clause 7.2.2(b)(1) has been deleted as it has been merged into clause 7.2.1(b). The expression “in accordance with Chapter 7 and the metrology procedure” has been transferred to clause 7.2.1(a)]

- (2) ~~must provide NEMMCO with relevant details of the metering installation in accordance with schedule 7.5 within 10 business days of acceptance by the Market Participant of the offer;~~ ~~[Deleted]~~

[Clause 7.2.2(b)(2) has been deleted as its intent has been transferred to the newly located clause 7.2.1(c)(4)]

- (c) Where a Local Network Service Provider is the responsible person, the Local Network Service Provider must provide NEMMCO with the metering installation’s NMI within 10 business days of a Market Participant’s acceptance of the connection agreement formed under clause 5.3.7.

[Clause 7.2.2(c) has been added to make the requirement in clause 5.3.7(e) transparent now that the LNSP has exclusive responsibility to be the responsible person for certain types of metering installations]

**7.2.3 Election by a Market Participant to be the responsible person { XE “metering” }**

- (aa) A Market Participant may elect to be the responsible person for a type 1, type 2, type 3 or type 4 metering installation;

[Clause 7.2.3(aa) is a new clause and has been added to define the boundary of opportunity for the Market Participant to elect to be Responsible Person. The Market Participant cannot elect to be the responsible person for type 5, type 6 and type 7 metering installations.]

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However, there should be nothing stopping a financially responsible Market Participant from altering a metering installation from a type 5, type 6 or type 7 metering installation to a type 1 to 4 type metering installation if such an alteration is considered to be commercially attractive to the Market Participant, either directly or on behalf of its customer (that was an implied right under the previous version of Chapter 7), and is permitted by a jurisdiction. This right has been conferred transparently on the Market Participant in changes made to clause 7.2.5(g) and clause 7.3.4(a)(1). These changes are consistent with the JJR recommendations 4.2(b) and 4.2(d), including clarification provided by the JJR that the “z” factor is not to be a new variable, but rather it will be specified as “x” for type 5 and “y” for type 6 metering installations. This assignment of the “z” factor to “x” and “y” has the effect of allocating the responsible person for all type 5 and type 6 metering installations to the LNSP. The change is also consistent with the JJR recommendation 4.3 that requires the LNSP to be the responsible person for the type 7 metering installation].

(ab) If an agreement arising from acceptance of the clause 7.2.2(b) offer is terminated due to breach by the Market Participant, the Market Participant becomes the responsible person for that metering installation upon termination of that agreement;

[Clause 7.2.3(ab) has been formed as a new clause (by a split from clause 7.2.3(a) below) to enable it to work along side clause 7.2.3(aa) above. The need to manage this type of ‘breach’ only arises under the exclusive LNSP responsible person condition, as represented by clause 7.2.2(b)]

~~(a) If a Market Participant elects not to request an offer from or does not accept the offer of the Local Network Service Provider for the provision of a metering installation under clause 7.2.2, or if an agreement under clause 7.2.2 is terminated due to breach by the Market Participant, the Market Participant:~~  
~~[Deleted]~~

~~(1a) will be the responsible person for that metering installation, in accordance with this Chapter 7 and the applicable metrology procedure;~~  
~~[Deleted]~~

~~(1) will have responsibility for arranging for the provision, installation and maintenance of the relevant metering installation and for this purpose, must engage a Metering Provider(s) registered by NEMMCO for the relevant work or, where the Market Participant is required to do so in accordance with a relevant metrology procedure, allow another person to engage a Metering Provider registered by NEMMCO to install the relevant metering installation;~~ ~~[Deleted]~~

~~(2) must enter into an agreement with the Metering Provider(s) which includes the terms and conditions for the provision, installation and maintenance of the metering installation by the Metering Provider or, where a Market Participant allows another person to engage a Metering~~

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~~Provider in accordance with clause 7.2.3(a)(1), must enter into an agreement with a Metering Provider in relation to the terms and conditions for the maintenance of the metering installation; and [Deleted]~~

~~(3) must provide NEMMCO with the relevant details of the metering installation in accordance with schedule 7.5 within 10 business days of entering into an agreement with the Metering Provider(s). [Deleted]~~

~~(b) For the avoidance of doubt, nothing in clause 7.2.3(a) prevents a Market Participant electing to terminate its agreement with a Metering Provider(s) after installation of a meter and entering into a new agreement with another Metering Provider for the maintenance of the metering installation. [Deleted]~~

[Clauses 7.2.3(a) and 7.2.3(b) have been transferred to clauses 7.2.1(c) and 7.2.1(d) in accordance with the outcomes of the legal review]

**7.2.4**

**Joint metering installations{ XE “joint metering installations” }{ XE “installation:joint metering” }**

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(a) Where more than one Market Participant wishes to use a metering installation at a particular connection point for the purpose of satisfying its obligations, then each of them may separately enter into the agreements referred to in clauses 7.2.2 or 7.2.3 or some or all of them may jointly enter into those agreements for the use of a shared metering installation.

(b) Where more than one Market Participant uses a metering installation which is provided, installed and maintained by a person other than the Local Network Service Provider, they must agree and notify NEMMCO as to which of them is the responsible person for that metering installation.

(c) In the absence of such agreement, NEMMCO may nominate one of the Market Participants to be the responsible person for that metering installation.

**7.2.5**

**Other responsibilities**

The responsible person must:

(a) ensure that each of its metering installations are is provided, installed and maintained in accordance with the appropriate metrology procedure;

[Editorial and change as a consequence of another change]

~~(aa) only use a metrology procedure involving a type 5, 6 or 7 metering installation in the participating jurisdiction of the Metrology Coordinator who has approved that metrology procedure; [Deleted]~~

[The change is a consequence of another change]

(b) ensure that the components, the accuracy and testing of each of its metering installations complies with the requirements of the Rules and the metrology procedure;

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[Clause (7.2.5(b)) has been revised in accordance with the outcomes of the legal review. “The Rules” has been restored as this reference is broader than Chapter 7 and also embraces Chapter 5 and Chapter 9 - the requested alteration will be resolved in Project 3. “metrology procedures has been added to provide flexibility by allowing some of the requirements for accuracy and testing to be specified in the metrology procedure]

- (ba) provide and maintain the security control of each of its *metering installations* in accordance with clause 7.8.2;
- (bb) ensure that for each of its *metering installations* a *communications link* is installed and maintained to the *telecommunications network* and includes, where required for the connection to that *telecommunications network*, a modem and *isolation* equipment approved under telecommunications regulations;
- (bc) provide access to the *metering installation* from a telecommunications network to facilitate the requirement of clause 7.7 and clause 7.12(aa);
- (c) [Deleted]
- (d) provide to *NEMMCO* the information specified in schedule 7.5 for ~~each of its~~ new or modified metering installations, or any other time at the request of NEMMCO;

[Clause 7.2.5(d) has been modified to provide clarification on its application]

- (e) not replace a device that is capable of producing interval energy data and is installed within a metering installation with a device that only produces accumulated energy data within that metering installation unless the metrology procedure permits the replacement to take place;

[Clause 7.2.5(e) has been added in accordance with the JJR recommendation 7.1]

- (f) ensure, for any type 5 metering installation where the annual flow of electricity through the connection point is greater than the type 5 accumulation boundary, that the metering data is extracted or emanates from the data logger as interval energy data;

[Clause 7.2.5(f) has been added in accordance with JJR recommendations 7.2, 7.3 and 7.4.]

- (g) subject to clause 7.2.5(e) and unless otherwise recorded in the metrology procedure, allow the replacement of a metering installation for which that person is responsible with another metering installation if notice of the change is received from the financially responsible Market Participant; and

[Clause 7.2.5(g) has been included as part of the changes that allocate exclusive responsibility for the metering installation to the LNSP. The clause is consistent with JJR recommendation 4.8. It has been added to ensure that Market

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Participants are not prevented from exercising their current implied right to upgrade a metering installation if the economics of the upgrade is attractive to that Market Participant, unless jurisdictional policy imposes an alternate requirement, in which case the alternate requirement will be included in the metrology procedure. For example, a jurisdiction that is to commence Full Retail Competition in the future may require (for a sunset period) all manually read meters to be read as accumulation meters, even if they are interval meters. Under this situation, the Market Participant should not be able to use this clause to overrule jurisdictional policy by classifying the metering installation as type 5, unless the jurisdiction is silent on this matter in the metrology procedure]

(h) in its role as incoming responsible person, be responsible for the metering installation on the day that a market load transfers from one financially responsible Market Participant to another financially responsible Market Participant for the period as specified in the Market Settlements and Transfer Solution Procedures.

[Clause 7.2.5(h) provides the head of power for accepted industry practice, being the period from 00:01 hours to 24:00 hours, to be made definitive within MSATS procedures so as to minimise a dispute on this matter]

### 7.2.6 [Deleted]

### 7.2.7 Registration of metering installations{ XE “metering” }

(a) NEMMCO must establish and *publish* a registration process to facilitate the application of this Chapter 7 to *Market Participants* and *Network Service Providers* in respect of:

- (1) new *metering installations*;
- (2) modifications to existing *metering installations*; and
- (3) decommissioning of *metering installations*,

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

### 7.2.8 Market Settlement and Transfer Solution Procedures

(a) NEMMCO in consultation with *Registered Participants* in accordance with the *Rules consultation procedures* must develop and *publish Market Settlement and Transfer Solution Procedures*.

(b) NEMMCO may from time to time amend *the Market Settlement and Transfer Solution Procedures* in consultation with *Registered Participants* in accordance with the *Rule consultation procedures*. NEMMCO must *publish* any such amendment to the *Market Settlement and Transfer Solution Procedures*.

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- (c) The *Market Settlement and Transfer Solution Procedures* may include roles and responsibilities for *Metering Providers*.
- (d) All *Registered Participants* and *Metering Providers* must comply with the *Market Settlement and Transfer Solution Procedures*.
- (e) If a *Registered Participant* or *Metering Provider* breaches the requirements of the *Market Settlement and Transfer Solution Procedures*, *NEMMCO* may send to that *Registered Participant* or *Metering Provider* a notice in writing setting out the nature of the breach.
- (f) If the *Registered Participant* or *Metering Provider* remains in breach for a period of more than 5 *business days* after receipt of a notice from *NEMMCO* under clause 7.2.8(e), *NEMMCO* must advise:
  - (1) the *Jurisdictional Regulator* for the *participating jurisdiction* in which the *connection point* in respect of which the breach occurs is located; and
  - (2) in the case of breach by a *Registered Participant*, the *AER*.

### 7.2A.1 B2B e-Hub

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

### 7.2A.2 Information Exchange Committee

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

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

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accordance with the *Information Exchange Committee Election Procedures*.

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

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

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

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(2) not less than 75% of that class of *Registered Participants* comprising:

(A) *Registered Participants* who are included on the list of *Local Retailers* published by NEMMCO; and

(B) *Market Customers* who are not included on the list of *Local Retailers* published by NEMMCO and who are not a related body corporate of a *Local Retailer*.

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

(g) The functions and powers of the *Information Exchange Committee* include:

(1) developing, consulting on and making an *Information Exchange Committee Recommendation*;

(2) managing the ongoing development of the *B2B Procedures* and any changes to them;

(3) establishing the *Information Exchange Committee Working Groups*;

(4) developing, consulting on and approving the *Information Exchange Committee Works Programme*;

(5) reviewing and considering work completed by the *Information Exchange Committee Working Groups*;

(6) developing proposed amendments to the *Information Exchange Committee Election Procedures*; and

(7) developing proposed amendments to the *Information Exchange Committee Operating Manual*.

(h) The *Information Exchange Committee* must provide to NEMMCO the current version of the *B2B Procedures* and the *Information Exchange Committee Works Programme*.

(i) NEMMCO must **publish** the *B2B Procedures* and the *Information Exchange Committee Works Programme* provided to it by the *Information Exchange Committee*.

**[Editorial change]**

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- (j) The *Information Exchange Committee*, *NEMMCO*, *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* must comply with the *Information Exchange Committee Election Procedures* and the *Information Exchange Committee Operating Manual*.
- (k) The *Information Exchange Committee* must meet at least once every three months.
- (l) The quorum for a meeting of the *Information Exchange Committee* is five *Members* comprising two *Distribution Network Service Provider Members*, two *Local Retailer/Market Customer Members* and one *Independent Member*.
- (m) A decision of the *Information Exchange Committee* is not valid and enforceable unless it is made as follows:
  - (1) an *Information Exchange Committee Recommendation* requires the support of six or more *Members*;
  - (2) any decision that a proposal under clause 7.2A.3(a) should not be considered further after initial consideration under clause 7.2A.3(b), and any decision to not recommend *B2B Procedures* or a change to the *B2B Procedures* for approval by *NEMMCO* requires the support of six or more *Members*;
  - (3) any decision to approve the *Information Exchange Committee Works Programme* requires the support of six or more *Members*; and
  - (4) any other decision by the *Information Exchange Committee* requires the support of five or more *Members*.
- (n) Each *Member* in performing his or her duties or in exercising any right, power or discretion must have regard to the *B2B Objective* and the *B2B Principles* and must:
  - (1) at all times act honestly;
  - (2) exercise the degree of care and diligence that a reasonable person in a like position would exercise;
  - (3) not make improper use of information acquired by virtue of his or her position to gain, directly or indirectly, an advantage for himself or herself, or the *Registered Participants* by which he or she is employed and/or which nominated him or her to be a *Member*; and
  - (4) not make improper use of his or her position to gain, directly or indirectly, an advantage for himself or herself or the *Registered Participants* by which he or she is employed and/or which nominated him or her to be a *Member*.



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- (o) Subject to clause 7.2A.2(n), a *Distribution Network Service Provider Member* may take into account the interests of *Distribution Network Service Providers* in performing his or her duties or in exercising any right, power or discretion.
- (p) Subject to clause 7.2A.2(n), a *Local Retailer/Market Customer Member* may take into account the interests of *Local Retailers* and *Market Customers* in performing his or her duties or in exercising any right, power or discretion.
- (q) The *Information Exchange Committee* must prepare the *Information Exchange Committee Annual Report* for the period ended 31 December in the first calendar year following the establishment of the *Information Exchange Committee* and the year ended 31 December in each year thereafter. The *Information Exchange Committee* must provide the *Information Exchange Committee Annual Report* to NEMMCO by the following 31 March and NEMMCO must *publish* that *Information Exchange Committee Annual Report*.
- (r) The *Information Exchange Committee Annual Report* must contain the information required by the *Information Exchange Committee Operating Manual*.
- (s) By 28 February each year the *Information Exchange Committee* must prepare a draft budget for the following financial year in a form which is consistent with the budget procedures of NEMMCO. Following discussion with NEMMCO the *Information Exchange Committee* must prepare a budget by 31 March and provide that budget to NEMMCO. When NEMMCO *publishes* its budget pursuant to clause 2.11.3, NEMMCO must advise the *Information Exchange Committee* of the final budget for the *Information Exchange Committee* for that financial year.

### 7.2A.3 Method of making and changing B2B Procedures

- (a) NEMMCO, a *Local Retailer*, a *Market Customer* or a *Distribution Network Service Provider* may propose *B2B Procedures*, or a change to the *B2B Procedures*, to the *Information Exchange Committee*. The proposal must be submitted in writing to the *Information Exchange Committee* and must provide details of the proposal and supporting information, including reasons for any change or *B2B Procedure*.
- (b) Within 25 business days of receipt by the *Information Exchange Committee* of a proposal under clause 7.2A.3(a), the *Information Exchange Committee* must meet to determine whether on a prima facie basis making new *B2B Procedures* and/or changing the *B2B Procedures* is warranted having regard to the *B2B Objective* and the *B2B Principles*.
- (c) If, after its consideration under clause 7.2A.3(b), the *Information Exchange Committee* decides that the proposal made under clause 7.2A.3(a) should not be considered further, the *Information Exchange*

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*Committee* must within five business days provide written reasons for that decision to whichever of *NEMMCO*, the *Local Retailer*, *Market Customer* or *Distribution Network Service Provider* who made the proposal.

- (d) If, after its consideration under clause 7.2A.3(b), the *Information Exchange Committee* decides that the proposal made under clause 7.2A.3(a) should be considered further, the *Information Exchange Committee* must develop the proposal into a *B2B Proposal* (which may differ from the proposal originally made) and an accompanying *B2B Procedures Change Pack* for consultation. The *Information Exchange Committee* must seek *NEMMCO*'s advice on whether a conflict with the *Market Settlement and Transfer Solution Procedures* arises from the *B2B Proposal* and include any such advice in the *B2B Procedures Change Pack*.
- (e) The *Information Exchange Committee* must comply with the *Rules consultation procedures* in relation to the *B2B Proposal*. For the purposes of clause 8.9(b), the nominated persons to whom notice must be given are *Local Retailers*, *Market Customers*, *Distribution Network Service Providers* and *NEMMCO*. For the purposes of the notice, the particulars of the matters under consultation must include a copy of the *B2B Procedures Change Pack*.
- (f) *NEMMCO* must *publish* the notice of consultation within 3 *business days* of its receipt and must notify all *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* of the consultation.
- (g) In addition to the matters which clause 8.9(g) requires be included in the draft report, the draft report must contain details of the *Information Exchange Committee*'s consideration of the *B2B Objective* and each of the *B2B Principles* and how the *Information Exchange Committee* has considered each submission made having regard to the *B2B Objective* and the *B2B Principles*.
- (h) In addition to the matters which clause 8.9(k) requires be included in the final report, the final report must contain details of the *Information Exchange Committee*'s consideration of the *B2B Objective* and each of the *B2B Principles* and how the *Information Exchange Committee* has considered each submission having regard to the *B2B Objective* and the *B2B Principles*.
- (i) The *Information Exchange Committee* can conclude not to recommend the proposed *B2B Procedures* be made or not to recommend a change to the *B2B Procedures*. Alternatively, the *Information Exchange Committee* may make an *Information Exchange Committee Recommendation* and in doing so may recommend a different *B2B Procedure* or change to the *B2B Procedures* from that originally proposed under clause 7.2A.3(a). A conclusion not to recommend the proposed *B2B Procedures* be made or not to recommend a change to the *B2B Procedures*, or the making of an

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*Information Exchange Committee Recommendation*, must be included in the final report required under clause 8.9(k).

- (j) In coming to a conclusion not to recommend the proposed *B2B Procedures* or not to recommend a change to the *B2B Procedures*, or in making an *Information Exchange Committee Recommendation*, the *Information Exchange Committee* must seek to achieve the *B2B Objective* and, in seeking to achieve the *B2B Objective*, must have regard to the *B2B Principles*. To the extent of any conflict between the *B2B Principles*, the *Information Exchange Committee* may determine the manner in which those principles can best be reconciled or which of them should prevail.
- (k) If the *Information Exchange Committee* recommends not to make the proposed *B2B Procedures* or not to change the *B2B Procedures*, *NEMMCO* must take no further action in respect of the proposal. If the *Information Exchange Committee* makes an *Information Exchange Committee Recommendation*, *NEMMCO* must consider the *Information Exchange Committee Recommendation* and must approve that *Information Exchange Committee Recommendation*, unless it concludes that:
  - (1) the *Information Exchange Committee* has failed to have regard to the *B2B Objective* and/or the *B2B Principles*;
  - (2) the *Information Exchange Committee Recommendation* would conflict with the *Market Settlement and Transfer Solution Procedures*; or
  - (3) the *Information Exchange Committee* has not followed the *Rules consultation procedures* (as supplemented by this clause 7.2A.3).
- (l) In considering an *Information Exchange Committee Recommendation*, *NEMMCO* must not consider:
  - (1) the manner in which the *Information Exchange Committee* considered the *B2B Objective* and the *B2B Principles* or the weight given by the *Information Exchange Committee* to the different *B2B Principles* or the balancing between them; or
  - (2) the merits of the *Information Exchange Committee Recommendation*.
- (m) *NEMMCO* must not amend the *Information Exchange Committee Recommendation* and must not conduct any further consultation on the *Information Exchange Committee Recommendation* prior to making its *B2B Decision*.
- (n) *NEMMCO* must *publish* and make available on its website its *B2B Decision*, with reasons, within 10 *business days* of receiving an

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*Information Exchange Committee Recommendation from the Information Exchange Committee.*

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

### 7.2A.4 Content of the B2B Procedures

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

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- (e) The *B2B Procedures* or a change to the *B2B Procedures* must also include a date for the commencement of the *B2B Procedures* or the change. That date must be not less than 10 *business days* after the related *B2B Decision* is *published*. The *Information Exchange Committee* may extend that date following consultation with *NEMMCO* and affected *Registered Participants*. If the date is extended by the *Information Exchange Committee*, the *Information Exchange Committee* must provide *NEMMCO* with that date and *NEMMCO* must *publish* that date.
- (f) A change to the *B2B Procedures* may also include provisions relating to a date for the end of a process related to a *B2B Communication*. That date may be after the date of commencement of the change and may be left to the discretion of the *Information Exchange Committee*. If the date is set by the *Information Exchange Committee*, the *Information Exchange Committee* must provide *NEMMCO* with that date and *NEMMCO* must *publish* that date.
- (g) The *B2B Procedures* may be constituted by one or more separate documents.
- (h) The *B2B Procedures* may include roles and responsibilities for *Metering Providers*.
- (i) Subject to the *Information Exchange Committee* following the requirements placed upon it in the *Rules* in relation to the *B2B Procedures*, *Local Retailers*, *Market Customers*, *Distribution Network Service Providers*, *NEMMCO* and *Metering Providers* must comply with the *B2B Procedures*.
- (j) *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* may, on such terms and conditions as agreed between them, communicate a *B2B Communication* on a basis other than as set out in the *B2B Procedures*, in which case the parties to the agreement need not comply with the *B2B Procedures* to the extent that the terms and conditions agreed between them are inconsistent with the *B2B Procedures*.
- (k) *B2B Data* is confidential information and may only be disclosed as permitted by the *Rules*.
- (l) If a change to the *B2B Procedures* is of a minor or procedural nature or is necessary to correct a manifest error in the *B2B Procedures*, the *Information Exchange Committee* may recommend the change to *NEMMCO* and need not consult on the change in accordance with the *Rules consultation procedures*. Clauses 7.2A.3(i) to (o) (inclusive) and clauses 7.2A.4(e) and (f) apply to such a change (with any necessary modifications). In addition to publishing its *B2B Decision* in relation to such a change, *NEMMCO* must notify all *Local Retailers*, *Market Customers* and *Distribution Network Service Providers* of the change.

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

- (a) At 9.00am (EST), on the day immediately following the day on which the *Information Exchange Committee* is established pursuant to clause 7.2A.2(a) (“**transition day**”),
  - (1) those *Market Settlement and Transfer Solution Procedures* entitled “MSATS Procedures: B2B Procedures” are deemed to have been the subject of an *Information Exchange Committee Recommendation* under clause 7.2A.3(i) and to have been approved by *NEMMCO* in accordance with clause 7.2A.3(k), and are deemed to be *B2B Procedures*. Such a deemed *Information Exchange Committee Recommendation* and deemed *B2B Decision* are not within the scope of clauses 8.2.5(d1) to (d4) (see clause 8.2A.2(i)).
  - (2) any proposed new *Market Settlement and Transfer Solution Procedures* entitled “MSATS Procedures: B2B Procedures”, or a change to any *Market Settlement and Transfer Solution Procedures* entitled “MSATS Procedures: B2B Procedures”, which is the subject of consultation by *NEMMCO* in accordance with the *Rules consultation procedures* on the transition day is deemed to be a valid *B2B Proposal* and, to the extent the *Rules consultation procedures* have been complied with by *NEMMCO*, is deemed to comply with the consultation requirements detailed in clause 7.2A.3(e).
- (b) All things done in relation to a *B2B Communication* the subject of those *Market Settlement and Transfer Solution Procedures* entitled “MSATS Procedures: B2B Procedures” immediately before the transition day must under the *B2B Procedures* continue to have the same status, operation and effect as they would have under the *Market Settlement and Transfer Solution Procedures* entitled “MSATS Procedures: B2B Procedures”. In particular, this clause 7.2A.5 does not disturb the status, operation or effect of any *B2B Communication* or any proceeding, liability, rights or other matter or thing made, done, effected, obtained, given, accrued, incurred, acquired, existing or continuing before the transition day.

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**7.2A.6 Cost Recovery**

- (a) The costs of the development of the *B2B Procedures*, the costs of the establishment and operation of the *Information Exchange Committee* (including the engagement costs of specialist advisers, and the remuneration and payment of the reasonable expenses of the *Independent Members*), all of which must be set out in the budget prepared by the *Information Exchange Committee* pursuant to clause 7.2A.2(s) and the *Information Exchange Committee Annual Report*, and the operational costs associated with any service provided by *NEMMCO* to facilitate *B2B Communications* (including providing and operating a *B2B e-Hub*)

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must be paid by NEMMCO in the first instance and recouped by NEMMCO as Participant fees.

- (b) Subject to clause 7.2A.6(a), the cost of any Member (other than an Independent Member) and involvement of individuals in the Information Exchange Committee Working Groups is not to be borne by NEMMCO.
- (c) The cost to a Local Retailer, Market Customer and Distribution Network Service Provider of implementing and maintaining the necessary systems and processes to ensure compliance with B2B Procedures must be met by that Local Retailer, Market Customer or Distribution Network Service Provider.

**7.3 Metering Installation Arrangements**

**7.3.1A Metering Installation Requirements{ XE metering }**

- (a) Each connection point must have a metering installation;
- (b) Energy data is to be based on units of watthour (active energy) and where required varhour (reactive energy).

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[The changes have been made to reflect the correct use of units “watthour” and “varhour”]

**7.3.1 Metering installation components{ XE “metering” }{ XE “installation:components” }**

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

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[The alterations have been made: (1) in accordance with the outcomes of the legal review, (2) to improve the reading of the paragraph in regard to “at a minimum” and (3) to use the current industry term “unmetered” consistently.

- (2) be accurate in accordance with clause 7.3.4;
- (3) have electronic data transfer facilities from the metering installation to the metering database in accordance with clause 7.3.5;
- (3a) contain a communications link in accordance with clause 7.2.5(bb);

[Style change to reflect style used in other parts on this chapter – compare with clause 7.3.1 (b) (6a)]

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- (4) be secure in accordance with clause 7.8;
- (5) have electronic data recording facilities such that *active energy* can be collated in accordance with clause 7.9.3. For the purpose of clarity, this clause 7.3.1(a)(5) relates to the *metering installation* and not a *meter*;
- (6) be capable of separately registering and recording flows in each direction where bi-directional *active energy* flows occur;
- (7) if a device is used in accordance with clause 7.3.1(a)(1), have a measurement element for *active energy* and if required in accordance with schedule 7.2 a *measurement element* for *reactive energy*, which both have an internal or external *data logger*;
- (8) be capable of delivering data from the site of the *metering installation* to the *metering database*;
- (9) include facilities on site for storing the *interval energy data* for a period of at least 35 *days* if the *communications link* has a capability for ~~daily~~ delivery of actual metering data as required by clause 7.11(a)(4) from the site of the *metering point* and the *metering installation* includes the *measurement element(s)* and the *data logger* at the same site;

**[Change as a consequence of introducing the new Glossary term ‘remote acquisition’ into clause 7.11(a). The reference to clause 7.11(a) allows it to be the single reference point for this standard of delivery]**

- (10) include facilities on site for storing the *interval energy data* for a period of at least 200 *days* or such other period as specified in ~~the metrology procedure~~ if the *communications link* does not have a capability for delivery of actual metering data as required by clause 7.11(a)(5) or clause 7.11(aa) and the *metering installation* includes the *measurement element(s)* and the *data logger* at the same site;

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**[Change as a consequence of another change. This change allows clause 7.11 to be the single reference point for delivery standards. Change to ‘measurement element’ arose from legal review]**

- (11) include *metering installation* database facilities for storing *energy data* for a period of at least 35 *days* where the *metering installation* provides for a remote *data logger*; and
- (12) include *metering installation* database facilities for storing *energy data* for a period of at least 35 *days* where *metering data* is determined for an unmetered connection point ~~:~~;

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**[Change as a consequence of another change]**

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



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- (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) an appropriately constructed panel on which the *meter* and the *data logger* are mounted;
  - (5) a *meter* and a *data logger* which may be either internal or external to the *meter*. For the purpose of clarification, a *data logger* may be located at a site remote from the site of a *meter* and a *data logger* may consist of a *metering installation* database that is under the control of the *Metering Provider*;
  - (6) communication interface equipment such as a modem, isolation requirements, telephone service, radio transmitter and data link equipment;
  - (6a) one or more *communications links* which facilitate the collection of *energy data* from a *data logger* or a *measurement element* so as to enable a remote interface to the *telecommunications network* to be established;
  - (6b) data processing facilities, including algorithms for the preparation of a load pattern(s), for the conversion of *accumulated energy data* or *estimated energy data* into *metering data*;
  - (6c) techniques for the estimation of *market loads* in accordance with schedule 7.2;
  - (7) auxiliary electricity supply to the *meter*;
  - (8) an alarm circuit and monitoring facility;
  - (9) a facility to keep the *metering installation* secure from interference;
  - (10) test links and fusing;
  - (11) summation equipment; and
  - (12) several *metering points* to derive the *metering data* for a *connection point*.
- (ba) Subject to clause 7.3.1(n), a *metrology procedure* must ~~be prepared, revised and published by NEMMCO, in accordance with the Rules consultation procedures and following consultation with other interested parties, for metering installations associated with those connection points which are classified as metering installation types 1, 2, 3 and 4 as specified in schedule 7.2;~~ **[Deleted]**:
- (1) ~~be prepared, revised and published by NEMMCO, in accordance with the Rules consultation procedures and following consultation with other interested parties, for metering installations associated with those connection points which are classified as metering installation types 1, 2, 3 and 4 as specified in schedule 7.2;~~ **[Deleted]**

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[This paragraph has been moved to clause 7.3.2A(b)]

- (2) ~~be prepared and revised by the relevant Metrology Coordinator in accordance with the Rules consultation procedures and following consultation with other interested parties and other Metrology Coordinators, for metering installations associated with those connection points identified in clause **Error! Reference source not found.**(b)(2) and which are classified as metering installation types 5, 6 and 7 as specified in schedule 7.2. The metrology procedures required by this clause 7.3.1(ba)(2) must:~~ ~~[Deleted]~~

[Deleted consequential to NEMMCO being made responsible for Metrology procedures]

- (3) ~~be prepared in accordance with:~~ ~~[Deleted]~~
- (i) ~~the principles set out in clause 7.3.1(b);~~ ~~[Deleted]~~
  - (ii) ~~the relevant requirements of a metering installation in accordance with clauses 7.3.1(a), 7.3.1(b), 7.3.4(d), 7.9.3 and schedule 7.2;~~ ~~[Deleted]~~
  - (iii) ~~guidelines that are established under clause 7.3.1(bb);~~ ~~[Deleted]~~
  - (iv) ~~guidelines for the development of an asset management strategy in accordance with schedule 7.3;~~ ~~[Deleted]~~
  - (v) ~~relevant capabilities and acceptable standards of performance of Metering Providers for each of the relevant processes and devices in accordance with schedule 7.4;~~ ~~[Deleted]~~
  - (vi) ~~processes for the settlement of the market as provided for in clause 3.15; and~~ ~~[Deleted]~~
  - (vii) ~~the management of any financially responsible Market Participant prudential requirements as provided for in clause 3.3.~~ ~~[Deleted]~~

[The intent of this paragraph has been moved to 7.3.2A(b)(1) and 7.3.2A(c). These two clauses specify the content of the metrology procedure]

- (4) ~~include the period between when the metrology procedure is published and the effective date of the metrology procedure. This period is to be:~~ ~~[Deleted]~~
- (i) ~~a minimum of three months for the metrology procedures provided for in clause 7.3.1(ba)(1);~~ ~~[Deleted]~~
  - (ii) ~~a minimum of three months for the metrology procedures provided for in clause 7.3.1(ba)(2). If the effective date of a metrology procedure has not occurred then metering installation types 5, 6~~

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~~and 7 cannot be used in the jurisdiction for which the *metrology procedure* has not become effective. [\[Deleted\]](#)~~

**[This paragraph has been moved to clause 7.3.2A(b)(3)]**

- (bb) ~~For the purpose of clarification, to the extent that the Rules and the *National Measurement Act* are inconsistent, the *National Measurement Act* is to prevail. *NEMMCO* in consultation with the National Standards Commission must establish guidelines that clarify the requirements of the *National Measurement Act* in relation to the application of the *National Measurement Act* on *metering installations* required by the Rules. [\[Deleted\]](#)~~

**[This paragraph has been moved to clause 7.3.2A(e)]**

- (bc) ~~Subject to clause 7.3.1(n), in the preparation of a *metrology procedure* a *Metrology Coordinator* must have regard to: [\[Deleted\]](#)~~
- (1) ~~the promotion of an efficient *market*; [\[Deleted\]](#)~~
  - (2) ~~the avoidance of unreasonable discrimination between *Market Participants*; [\[Deleted\]](#)~~
  - (3) ~~minimisation of the barriers to entry for competing retailers; [\[Deleted\]](#)~~
  - (4) ~~providing *metrology procedures* which are technically sound and economically efficient; and [\[Deleted\]](#)~~
  - (5) ~~the *Code consultation procedures* where reasonably practicable [\[Deleted\]](#)~~
- (6) ~~and to the extent of any conflict between the application of these objective to a particular *metrology procedure*, the *Metrology Coordinator* may determine the manner in which they can best be reconciled or which of them should prevail.~~

**[This paragraph has been deleted as clauses 7.3.1(bc)(1) to (4) are already imposed on NEMMCO by the Market Objective and the MCE policy principles under the National Electricity Law. Clause 7.3.1(bc)(5) is imposed on NEMMCO in clause 7.3.2A(b)(2)]**

- (bd) ~~*NEMMCO* must review each *metrology procedure* for consistency with the guidelines established under clause 7.3.1(bb), the prudential requirements of clause 3.3 and the settlements requirements of clause 3.15. Where an inconsistency is identified *NEMMCO* must inform the relevant *Metrology Coordinator* of this inconsistency. [\[Deleted\]](#)~~

**[Deleted consequential to NEMMCO being made responsible for Metrology procedures]**

- (c) Either a *Local Network Service Provider* or a *Market Participant* may with the agreement of the *responsible person* arrange for a *metering installation* to contain features in addition to those specified in clause 7.3.1(b).

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- (d) The *responsible person* for a *metering installation* must apply to the *Local Network Service Provider* for a National Metering Identifier (*NMI*).
- (da) The *Local Network Service Provider* must issue for each *metering installation* a unique *NMI*.
- (db) The *responsible person* must register the *NMI* with *NEMMCO* in accordance with procedures from time to time specified by *NEMMCO*.
- (e) Where a *metering installation* is used for purposes in addition to the provision of *metering data* to *NEMMCO* then:
  - (1) that use must not cause an infringement of the requirements of the *Rules*;
  - (2) the *responsible person* must co-ordinate with the persons who use the *metering installation* for such other purposes; and
  - (3) the *metering installation* must comply with the requirements for operational *metering* as detailed in Chapter 4 of the *Rules*.
- (f) A *Metering Provider* is entitled to physical access to the site of a *metering installation* in accordance with clause 5.3.7(e) and schedule 5.6.
- (g) ~~The *Metrology Coordinator* may propose changes to the *metrology procedures* for which it is responsible which, in the reasonable opinion of the *Metrology Coordinator*, are minor, procedural or necessary to correct a manifest error.~~ ~~[Deleted]~~

[This paragraph has been moved to clause 7.3.2A(f)]

- (h) ~~The *Metrology Coordinator* must, following a proposal under clause 7.3.1(g) to change the *metrology procedures* for which it is responsible, consult and seek submissions from *interested parties* regarding the proposed changes to the *metrology procedures*.~~ ~~[Deleted]~~

[Deleted consequential to NEMMCO being made responsible for Metrology procedures]

- (i) ~~The *Metrology Coordinator* must, following consultation with *interested parties* in accordance with clause 7.3.1(h), notify all *Registered Participants*, *NEMMCO* and other *interested parties* of the changes to the *metrology procedures* proposed by the *Metrology Coordinator* in accordance with clause 7.3.1(g).~~ ~~[Deleted]~~

[Deleted consequential to NEMMCO being made responsible for Metrology procedures]

- (j) ~~A *Registered Participant*, *NEMMCO* or *interested party* may make a submission to the *Metrology Coordinator* prior to the closing time for submission being not less than 7 days after the issue of the notice by the *Metrology Coordinator* in accordance with clause 7.3.1(i).~~ ~~[Deleted]~~

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~~[Deleted consequential to NEMMCO being made responsible for Metrology procedures]~~

- (k) ~~The Metrology Coordinator, following consideration of all submissions received in accordance with clause 7.3.1(j) may amend the metrology procedures to implement:~~~~[Deleted]~~
- (1) ~~the changes proposed by the Metrology Coordinator in accordance with clause 7.3.1(g); or~~~~[Deleted]~~
  - (2) ~~any revised changes to the metrology procedures following consideration by the Metrology Coordinator of any submissions received in accordance with clause 7.3.1(j).~~~~[Deleted]~~

~~[Deleted consequential to NEMMCO being made responsible for Metrology procedures]~~

- (l) ~~If a metrology procedure for a participating jurisdiction reproduces a clause, or part of a clause of the Rules, the Metrology Coordinator in the relevant jurisdiction must amend the metrology procedure to reflect any changes to the Rules clause.~~~~[Deleted]~~

~~[Deleted consequential to NEMMCO being made responsible for Metrology procedures]~~

- (m) ~~The relevant Metrology Coordinator must publish any changes made to the metrology procedures in accordance with clause 7.3.1(l)~~~~[Deleted]~~

~~[Deleted consequential to NEMMCO being made responsible for Metrology procedures]~~

- (n) ~~Clauses 7.3.1(ba) and 7.3.1(bc) do not apply to changes made to the metrology procedures made in accordance with clause 7.3.1(k) or 7.3.1(l).~~~~[Deleted]~~

~~[Deleted consequential to NEMMCO being made responsible for Metrology procedures]~~

- (o) ~~The relevant Metrology Coordinator for a participating jurisdiction must receive and consider a proposal for the amendment of a metrology procedure from a Registered Participant, NEMMCO or an interested party.~~~~[Deleted]~~

~~[Clause 7.3.1(o) has been moved to clause 7.3.2A(g)]~~

### **7.3.2A Metrology Procedure{ XE “connection and metering point” }**

**[Clause 7.3.2A is a relocation of clauses 7.3.1(ba), (bb), (g) and (o) to improve readability of the document. It also includes additional provisions for the formation and revision of the metrology procedure, and the incorporation of policy directions from jurisdictional Ministers.]**

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- (a) The initial *metrology procedure* under clause 7.3.2A is deemed to have been prepared and published in accordance with the *Rules consultation procedures* and takes effect on the date clause 7.3.2A takes effect;

[Clause 7.3.2A(a) has been introduced to allow the first harmonised metrology procedure to be synchronised with the date of gazettal of the version of the Rules that gives rise to the metrology procedure. This can be achieved because the metrology procedure is an amalgamation of existing metrology procedures that are already effective, and does not impose any substantively new conditions on Registered Participants and service providers]

- (b) The *metrology procedure* must:

(1) be limited to the requirements for the provision, installation and maintenance of metering installations, including requirements imposed on responsible persons and Metering Providers;

(2) be prepared, revised and published by NEMMCO, in accordance with the *Rules consultation procedures*;

[Clauses 7.3.2A(b)(1) and (2) replace clause 7.3.1(ba)(1) that has been deleted. Clause 7.3.2A(b)(1), in part, also replaces clause 7.3.1(ba)(3). The Glossary has been amended to remove reference to the term ‘interested parties’ that is no longer relevant to Chapter 7]

(3) include the date when the *metrology procedure* is published and the effective date of the *metrology procedure*. The period between these two dates is to be a minimum of 3 months unless the change is made under clause 7.3.2A(f) in which case the effective date may be the same date as the date of publication.

[Clause 7.3.2A(b)(3) represents a modified clause 7.3.1(ba)(4). The clause has been altered to allow for no delay to occur between publication and it becoming effective if the change is classified as ‘minor’]

(4) not contain information relating to consumer protection;

[Clause 7.3.2A(a)(4) has been included in accordance with JJR recommendation 3.2(c)]

- (c) The *metrology procedure* may:

(1) implement *jurisdictional policy directives* for one or more participating jurisdictions, provided:

[Clause 7.3.2A(c)(1) has been introduced in accordance with points 3.2(d) and 11.3(b)(iii) of the JJR recommendations. Clause 7.3.2A(c), in part, replaces clause 7.3.1(ba)(3)]

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- (A) the participating jurisdiction’s Minister provides NEMMCO with a detailed written explanation as to why the Minister’s participating jurisdiction cannot adopt the metrology procedure;
- (B) the jurisdictional policy directive contains a date by which a participating jurisdiction will undertake a review to evaluate that participating jurisdiction’s ability to harmonise the jurisdictional policy directive with the metrology procedure (‘the review date’);
- (C) the jurisdictional policy directive, as implemented by the metrology procedure, ends on the review date unless the relevant Minister issues NEMMCO with a new jurisdictional policy directive in accordance with clause 7.3.2A(g);
- (D) the jurisdictional policy directive is consistent in content with the information specified in clauses 7.3.2A(b)(1) and 7.3.2A(c)(2), but may also address the following matters for the relevant participating jurisdiction:
  - (i) guidelines for the replacement of a device capable of producing interval energy data with a device that only produces accumulated energy data; and
  - (ii) the specification of the type 5 accumulation boundary. The type 5 accumulation boundary is to be zero MWh unless specified otherwise in the metrology procedure;
- (E) the metering data is not prevented from being extracted or emanating from a data logger as interval energy data if required by the financially responsible Market Participant or an Local Network Service Provider for the purpose other than for settlements;

(2) contain the following matters:

**[Clause 7.3.2A(c)(2) has been introduced to provide industry with a level of certainty as to the extent of content of the metrology procedure. It works in conjunction with clause 7.3.2A(b)(1)]**

- (A) Clarification of the Rules in regards to the following processes:
  - (i) load profiling;
  - (ii) provision and service of meters;
  - (iii) provision of energy data services;
  - (iv) metrology for a market load connected to a network where the owner or operator of that network is not a Registered Participant; and
  - (v) accreditation of Metering Providers;

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- (B) A more detailed specification of the following technical standards:
- (i) the accuracy of metering installations;
  - (ii) data logger standards;
  - (iii) inspection and testing standards;
  - (iv) Metering Provider accreditation standards;
  - (v) the technical requirements of the metering installation’s database; and
  - (vi) the technical standards for metering of a market load that are connected to a network where the operator or owner of that network is not a Registered Participant;
- (C) Clarification of the Rules covering obligations imposed on the following persons:
- (i) responsible persons;
  - (ii) NEMMCO; and
  - (iii) Metering Providers;

- (3) contain information that is a repetition of the information contained in Chapter 7 of the Rules but in a different sequence;
- (4) contain information that is a direct copy of the Rules for the purpose of providing a sub-set of the Rules for use by a nominated service provider;
- (5) contain information on the application of the Rules;
- (6) contain information to ensure consistency in practice between the metrology procedure and other instruments, including but not limited to the practices adopted in the Market Settlement and Transfer Solution Procedures;

**[Clauses 7.3.2A(c)(3), (4), (5) and (6) have been introduced to remove any doubt about the role of the metrology procedure]**

- (d) a Minister may delegate the right to issue a jurisdictional policy directive by instrument of delegation, a certified copy of which must be provided to NEMMCO if the Minister’s delegate issues a jurisdictional policy directive under clause 7.3.2A(c)(1)(A);
- (e) For the purpose of clarification, to the extent that the Rules and the National Measurement Act 1960 (Cth) are inconsistent, the National Measurement Act 1960 (Cth) is to prevail. NEMMCO in consultation with the National Measurement Institute must establish guidelines that clarify the requirements



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of the National Measurement Act 1960 (Cth) as that Act applies to *metering installations*;

**[Clause 7.3.2A(e) has been relocated from clause 7.3.1(bb). Editorial change for National Measurement Act and Act (removal of italics)]**

(f) NEMMCO may make changes to the *metrology procedure* that are of a minor, or procedural nature, or necessary to correct a manifest error without undertaking the *Rules consultation procedures*. In making such a change, NEMMCO must:

(1) publish the proposed change and reasons for it;

(2) issue a notice to *Registered Participants, Metering Providers, Ministers and Jurisdictional Regulators* to advise that the proposed change to the *metrology procedure* has been published;

(3) invite response to the proposed change;

(4) allow 10 *business days* for responses;

(5) allow a reasonable extension of time for responses if requested in writing by a *Registered Participant* or *Metering Provider*;

(6) consider the responses; and

(7) publish, on or before the date of *publication of the metrology procedure*, reasons for changes to the *metrology procedure*;

**[Clause 7.3.2A(f) has been relocated from clause 7.3.1(g). It has been expanded to include a ‘fast track’ consultation process to impose a requirement on NEMMCO to inform industry prior to making the change]**

(g) Any person may submit to NEMMCO a proposal to amend the *metrology procedure*. NEMMCO must receive and consider a proposal for the amendment of a *metrology procedure*. If the proposal for an amendment is:

**[This clause 7.3.2A(g) has been relocated from clause 7.3.1(o) and changed to place the obligation on NEMMCO. Clauses 7.3.2A(g)(1) and (2) recognise the different approach to be adopted by NEMMCO between a jurisdictional request and a industry request]**

(1) a *jurisdictional policy directive*, NEMMCO must:

(A) acknowledge receipt to the *relevant Minister*;

(B) undertake the *Rules consultation procedure* and include in that consultation the *Minister’s* written explanation specified in clause 7.3.2A(c)(1)(A);

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(C) at the conclusion of the Rules consultation procedure conducted under clause 7.3.2A(g)(1)(B), advise the relevant Minister of the outcome of that Rules consultation procedure;

(D) unless advised otherwise by the Minister resulting from information provided to the Minister under clause 7.3.2A(g)(1)(C), incorporate any jurisdictional policy directive in the metrology procedure that is in the nature of a guideline, specification or other standard for the Minister’s participating jurisdiction;

(2) not a jurisdictional policy directive, NEMMCO must:

(A) acknowledge receipt of the proposal to the person who submitted it;

(B) advise of the action that NEMMCO will undertake, being either to accept it, request more information, or reject it. If NEMMCO:

(i) requests more information, on receiving that information NEMMCO must either accept the proposal or reject it;

(ii) accepts the proposal, NEMMCO must conduct a Rules consultation procedure on it;

(iii) rejects the proposal, NEMMCO must advise the person in writing of the reason for rejecting it;

(C) at the conclusion of the Rules consultation procedure conducted under clause 7.3.2A(g)(2)(B) revise, if appropriate, the metrology procedure to incorporate the outcome of the consultation.

### 7.3.2

#### Connection and metering point{ XE “connection and metering point” }

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- (a) The responsible person must ensure that:
- (1) the revenue metering point is located as close as practicable to the connection point; and
  - (2) any instrument transformers required for a check metering installation are located in a position which achieves a mathematical correlation with the revenue metering data.
- (b) The Market Participant, the Local Network Service Provider and NEMMCO 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, NEMMCO in its absolute discretion may require a metering installation to be installed in the facility at each end of the two-

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*terminal link*. Each of these *metering installations* must be separately assessed to determine the requirement for *check metering* in accordance with schedule 7.2.

### 7.3.3 Use of metering data{ XE “metering” }

- (a) *Revenue metering data* must be used by NEMMCO as the primary source of *metering data* for billing purposes.
- (b) *Check metering data*, where available, must be used by NEMMCO for:
- (1) validation;
  - (2) substitution; and
  - (3) account estimation,
- of *revenue metering data* as required by clause 7.9.4.

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### 7.3.4 Metering installation { XE “meters” } types and accuracy

- (a) The type of *metering installation* and the accuracy requirements for a *metering installation* ~~which~~ that must be installed in respect of each *connection point* are to be determined in accordance with schedule 7.2:

(aa) The financially responsible Market Participant may arrange alterations to any type 5, type 6 or type 7 metering installation to make it capable of remote acquisition unless otherwise provided for in the metrology procedure;

[Note that the intent of clause 7.3.4(aa) is to allow the FRMP to replace either a type 5, type 6 or type 7 metering installation with a type 4 metering installation (or type 3 etc, as the case may be) unless this is prohibited by jurisdictional policy and recorded as such in the metrology procedure. The clause carries an implied requirement for the FRMP in undertaking the replacement, to do so in accordance with clause 7.1.4(a) that requires the change to be registered with NEMMCO (paragraph (1)) and to have a NMI (paragraph (3)), which will be important if an unmetered load is to be transferred away from a type 7 metering installation)]

(ab) The type 5, type 6 or type 7 metering installation under clause 7.3.4(aa) must not be altered until the transfer of the relevant market load has been effected by NEMMCO in accordance with the Market Settlement and Transfer Solution Procedures, unless the Market Settlement and Transfer Solution Procedures specify arrangements for the alteration of the metering installation to be carried out on a date that is different to the market load transfer date;

[Clause 7.3.4(ab) has been included to provide the MSATS procedures with a head of power that has not been specifically provided for in clauses 7.2.7 and 7.2.8 or elsewhere in Chapter 7. This clause supports current industry practice in that it allows parties to the transfer (old FRMP, new FRMP, LR and responsible person) to establish a practical and stable

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**transfer arrangement in MSATS that can be relied on by the parties to the extent that a failure to participate in the arrangement can be challenged through the dispute resolution process]**

(ac) If the financially responsible Market Participant referred to in clause 7.3.4(aa) is not also the responsible person for the metering installation that is to be replaced, the financially responsible Market Participant must advise the responsible person for that metering installation of its date of replacement prior to the replacement of that metering installation;

**[Clauses 7.3.4(ac) has been added to ensure that the FRMP communicates a proposed change in the type of the metering installation to the current responsible person (with whom the new FRMP does not have a commercial contract) prior to exercising any rights the new FRMP has to change the metering installation]**

- (b) A *check metering installation* is not required to have the degree of accuracy required of a *revenue metering installation* but must have a mathematical correlation with the *revenue metering installation*, and be consistent with the requirements of schedule 7.2;
- (c) *Metering installations* in use at the *market commencement* must conform with the provisions of Chapter 9;
- (d) The accuracy of a type 6 *metering installation* must be in accordance with regulations issued under the **National Measurement Act 1960 (Cth)** and, in the absence of any regulations, the ~~appropriate metrology procedure~~;

**[The change in part is a consequence of another change. Editorial change due to the removal of italics on National Measurement Act]**

(e) ~~Each *Metrology Coordinator* must advise *NEMMCO* by no later than 30 April each year of how much longer it proposes to allow its *metrology procedure(s)* to contain type 6 *metering installation(s)* within its jurisdiction.~~ **[Deleted]**

**[This clause has been deleted in accordance with recommendation 8.2 of the JJR]**

**7.3.5 Data collection system{ XE “data:collection system” }**

- (a) **[Deleted]**
- (b) *NEMMCO* must establish processes for the collection of *metering data* for the *metering database* from each *metering installation* in accordance with the requirements of clause 7.9.
- (c) *NEMMCO* may use *agency data collection systems* to collect *metering data*, process *metering data* into *settlements ready data* and to transfer *metering data* to the *metering database*.

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- (d) NEMMCO may obtain *metering data* directly from a *metering installation* for the *settlements* process.
- (e) Rules and protocols in respect of use of a *data collection system* and its connection to a *metering system* must be approved by NEMMCO and NEMMCO must not unreasonably withhold such approval.
- (f) Data formats used in respect of a *data collection system* must allow access to *metering data* at a *metering installation* and from the *metering database*.

### 7.3.6

#### Payment for metering{ XE “metering:payment” }

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- (a) Subject to clause 7.3.6(aa), the *financially responsible Market Participant* is responsible for payment of all costs associated with the provision, installation, maintenance, routine testing and inspection of the *metering installation*. This includes:
  - (1) the cost of providing *metering data* and *settlements ready data* to the *Local Network Service Provider* and to the *Local Retailer* to enable these parties to the extent required to fulfil their obligations under the *Rules*;
  - (2) the cost of providing *metering data* to NEMMCO; and
  - (3) the cost of preparing *settlements ready data* where such costs will not be recovered by NEMMCO in accordance with clause 7.3.6(ab);
- (aa) If a ~~Market Participant~~ *responsible person* allows another person to engage a *Metering Provider* to install a *metering installation* in accordance with clause ~~7.2.2(c)(1)~~ ~~7.2.3(a)(1)~~, the *Market Participant* under clause 7.3.6(a) is not responsible for the payment of the costs of installation of the relevant *metering installation*;

[The change is a consequence of another change]

- (ab) When NEMMCO is required to undertake functions associated with a *metering installation* in accordance with the requirements of ~~the metrology procedure~~, NEMMCO’s cost is to be recovered through *Participant fees* in accordance with a budget prepared under clause 2.11.3(b)(3) unless the *metrology procedure* specifies an alternative method of cost recovery, in which case NEMMCO must not recover the costs through *Participant fees*. These functions could include the preparation and application of a *profile*;

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[The change is a consequence of another change]

- (ac) Clause 7.3.6(a) does not apply in respect of the recovery by a Local Network Service Provider of its costs associated with the provision, installation, maintenance, routine testing and inspection of type 5, type 6 or type 7 metering installations, to the extent that these costs can be recovered by the Local Network Service Provider in accordance with a determination made by the AER or a relevant Jurisdictional Regulator;

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[The change is a consequence of the deletion of the Chapter 9 derogation for all participating jurisdictions]

- (b) Subject to clause 7.3.6(a), any costs incurred in gaining access to *metering data* must be paid by the party who obtained the *metering data*.
- (c) The cost of requisition testing and audits must be paid by the party requesting the test or audit, except where the *metering installation* is shown not to comply with this Chapter, in which case the *responsible person* in relation to that *metering installation* must bear the cost.

## 7.4 Metering Providers

### 7.4.1 Responsibility

- (a) Installation and maintenance of *metering installations* must be carried out only by a *Metering Provider*.
- (b) A *Metering Provider* is responsible for providing and maintaining the security controls of a *metering installation* in accordance with clause 7.8.2.

### 7.4.2 Qualifications and registration of Metering Providers{ XE “Metering Providers:qualifications” }

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- (a) A *Metering Provider* is a person who:
  - (1) meets the requirements set out in schedule 7.4; and
  - (2) is accredited and registered by NEMMCO in that capacity in accordance with the qualification process established under clause 7.4.1(b).
- (b) Any person may apply to NEMMCO for accreditation and registration as a *Metering Provider*.
- (ba) NEMMCO must, in accordance with *Rules consultation procedures*, prepare and *publish* guidelines in respect of the accreditation of *Metering Providers*. The adoption of the guidelines by *Metering Providers* is to be included in the qualification process in accordance with schedule 7.4.1(b). The guidelines must include a dispute resolution process.
- (bb) A *Metering Provider* must comply with the provisions of the *Rules*, and of procedures authorised under the *Rules*, and with any requirements established by NEMMCO under clause 7.4.2(bc), that are expressed to apply to *Metering Providers*.
- (bc) The requirements referred to in clause 7.4.2(bb):
  - (1) must include the service level requirements with which the different categories of *Metering Providers* referred to in schedule 7.4 must comply; and

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

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

- (c) *Network Service Providers* must either register as a *Metering Provider* or enter into agreements with *Metering Providers* for the provision of *metering services*.
- (ca) A *Network Service Provider* must allow a person other than a *Market Participant* to engage a *Metering Provider* to install a *metering installation* where the person does so in accordance with ~~clause 7.2A.3(a)(1)~~ the metrology procedure.

[The reference to clause 7.2A.3(a)(1) was incorrect. The new reference to the metrology procedure is consistent with the expression in clause 7.2.1(c)(1)]

- (d) Subject to clause 7.4.2(e), a *Market Generator* or *Market Customer* which is involved in the trading of *energy* must not be registered as a *Metering Provider* for *connection points* in respect of which the *metering data* relates to its own use of *energy*.
- (e) If a *Market Participant* is a *Market Customer* and also a *Network Service Provider* then the *Market Participant* may be registered as a *Metering Provider* for that *connection point* as specified in clause 7.4.2(d), providing that at the *connection points* on the *transmission network*, the *Market Participant* must regard the *Transmission Network Service Provider* with which it has entered into a *connection agreement* as the *Local Network Service Provider*.

**7.4.3 Deregistration of Metering Providers{ XE “Metering Providers:deregistration” }**

- (a) If a *Metering Provider* materially breaches the requirements of clause 7.4.2(bb), NEMMCO must send to that *Metering Provider* notice in writing

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setting out the nature of the breach and if the *Metering Provider* remains in breach for a period of more than 7 *days* after notice from *NEMMCO*, *NEMMCO* may deregister the *Metering Provider*.

- (aa) If *NEMMCO* reasonably determines that a *Metering Provider* may have breached the requirements of clause 7.4.2(bb), it must conduct a review of the *Metering Provider’s* capability to install and maintain a *metering installation*. The outcome of the review may be deregistration, suspension of some categories of registration or continued operation under constraints agreed with *NEMMCO*.
- (b) If, in the reasonable opinion of *NEMMCO*, a *Metering Provider* has acted in any way which is unethical, *NEMMCO* may deregister that *Metering Provider*.
- (c) This clause 7.4.3 sets out the only action that can be taken against a *Metering Provider*:
  - (1) for a breach by that *Metering Provider* of provisions of the *Rules* or of procedures authorised under the *Rules*, or of any requirements established by *NEMMCO* under clause 7.4.2(bc), that are expressed to apply to *Metering Providers*; or
  - (2) by *NEMMCO* as a result of that *Metering Provider* acting in a way which is unethical.

### 7.5 Register of Metering Information

#### 7.5.1 Metering register{ XE “metering register” }

- (a) As part of the *metering database*, *NEMMCO* must maintain a *metering register* of all *revenue metering installations* and *check metering installations* which provide *metering data* used for *NEMMCO* account statements.
- (b) The *metering register* referred to in clause 7.5.1(a) must contain the information specified in schedule 7.5.

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#### 7.5.2 Metering register discrepancy{ XE “metering register” }

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

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### 7.6 Inspection, Testing and Audit of Metering Installations{ XE “metering” }

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#### 7.6.1 Responsibility for testing

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- (a) Testing of a *metering installation* must be carried out in accordance with the inspection and testing requirements detailed in schedule 7.3.
- (b) A *Registered Participant* may request that *NEMMCO* arrange for the testing of any *metering installation* and *NEMMCO* must not refuse any reasonable request.
- (c) *NEMMCO* must check test results recorded in the *metering register* of every *metering installation* and arrange for sufficient audit testing of *metering installations* so as to satisfy itself that the accuracy of each *metering installation* conforms with the requirements of this Chapter 7.
- (d) The *responsible person* must ensure *NEMMCO* has unrestrained access to the *metering installation* for the purpose of testing the *metering installation* where *NEMMCO* agrees to comply with the *responsible person's* reasonable security and safety requirements and has first given the *responsible person* at least two *business days'* notice of its intention to access the *metering installation* for the purpose of testing the *metering installation*, which notice must include:
  - (1) the name of the *representative* who will be conducting the test on behalf of *NEMMCO*; and
  - (2) the *time* when the test will commence and the expected *time* when the inspection will conclude.
- (e) The *responsible person* or *NEMMCO*, whichever undertook testing of a *metering installation* for the purpose of this clause 7.6.1, must make the results of all tests in respect of that *metering installation* available as soon as practicable to any person *NEMMCO* considers to have a sufficient interest in the results.

#### 7.6.2 Actions in event of non-compliance

- (a) If the accuracy of the *metering installation* does not comply with the requirements of the *Rules*, the *responsible person* must:
  - (1) advise *NEMMCO* as soon as practicable of the errors detected and the possible duration of the existence of the errors; and
  - (2) arrange for the accuracy of the *metering installation* to be restored in a time frame agreed with *NEMMCO*.
- (b) *NEMMCO* may make appropriate corrections to the *metering data* to take account of errors referred to in clause 7.6.2(a) and to minimise adjustments to the final *settlements account*.

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### 7.6.3 Audits of metering data

- (aa) *NEMMCO* is responsible for auditing *metering installations*.
- (a) A *Registered Participant* may request *NEMMCO* to conduct an audit which will determine the consistency between the data held in the *metering database* or *metering data* held in the *Registered Participant's metering installation*.
- (b) If there are discrepancies between data held in a *metering installation* and data held in the *metering database* the affected *Registered Participants* must liaise together to determine the most appropriate way to resolve the discrepancy.
- (c) If there is an inconsistency between the data held in a *metering installation* and the data held in the *metering database*, the data in the *metering installation* is to be taken as prima facie evidence of the *connections point's energy data*.
- (d) *NEMMCO* must carry out periodic random audits of *metering installations* to confirm compliance with the *Rules* and must be given unrestrained access by *Registered Participants* to *metering installations* for the purpose of carrying out such random audits where *NEMMCO* agrees to comply with the *Registered Participant's* reasonable security and safety requirements and has first given the *Registered Participant* at least two *business days'* notice of its intention to carry out an audit, which notice must include:
- (1) the name of the *representative* who will be conducting the audit on behalf of *NEMMCO*; and
  - (2) the *time* when the audit will commence and the expected *time* when the audit will conclude.

### 7.7 Rights of Access to Data{ XE “access” }

- (a) The only persons entitled to have either direct or remote access to *metering data* from a *metering installation*, the *metering database* or the *metering register* in relation to a *connection point* are:
- (1) *Registered Participants* whose *NEMMCO* account statement relates to *energy* flowing through that *connection point*;
  - (2) the *Metering Provider(s)* who has an agreement to service the *metering installation*, in which case access is to be restricted only to allow authorised work;
  - (3) the *Network Service Providers* associated with the *connection point*;
  - (4) *NEMMCO* and *AER* and its authorised agents; and
  - (5) any *Customer* who is registered by *NEMMCO* and who purchases electricity at the associated *connection point*, and
  - (6) *Registered Participants* as provided for in the *Market Settlement and Transfer Solution Procedures* and *B2B Procedures*.

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- (b) Electronic access to *metering data* from a *metering installation* shall only be provided where passwords in accordance with clause 7.8.2 are allocated, otherwise access to *metering data* shall be from the *metering database*.
- (c) The *responsible person* must ensure that access to *metering data* from the *metering installation* by persons referred to in clause 7.7(a) is scheduled appropriately to ensure that congestion does not occur.
- (d) Despite anything to the contrary in this clause 7.7 and subject to clause 8.6, *NEMMCO* may provide *metering data* relating to a *Registered Participant* from a *metering installation*, the *metering database* or the *metering register* to an ombudsman acting under a duly constituted industry dispute resolution ombudsman scheme of which the *Registered Participant* is a participant, if the ombudsman has requested the data for the purpose of carrying out a function of that scheme in respect of a complaint made by a customer of the *Registered Participant* against that *Registered Participant* under that scheme.
- (e) *NEMMCO* must notify the relevant *Registered Participant* of any information requested by an ombudsman under clause 7.7(d) and, if it is requested by that *Registered Participant*, supply the *Registered Participant* with a copy of any information provided to the ombudsman.
- (f) *NEMMCO* must, acting jointly with industry ombudsmen, develop procedures for the efficient management of timely access to data by ombudsmen in consultation with *Registered Participants* in accordance with the *Registered consultation procedures*.

### 7.8

#### Security of Metering Installations and Data{ XE “security” }{ XE “metering” }

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#### 7.8.1

##### Security of metering equipment

- (a) The *responsible person* must ensure that the *metering installation* is secure and that associated links, circuits and information storage and processing systems are secured by means of seals or other devices approved by *NEMMCO*.
- (b) *NEMMCO* may override any of the security devices fitted to a *metering installation* with prior notice to the *responsible person*.
- (c) [Deleted]

#### 7.8.2

##### Security controls

- (a) The *responsible person* must ensure that *metering data* held in the *metering installation* is protected from direct *local* or remote electronic access by suitable password and security controls in accordance with clause 7.8.2(c).
- (b) The *Metering Provider* must keep records of electronic access passwords secure.

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- (c) The *Metering Provider* must allocate 'read-only' passwords to *Market Participants*, *Local Network Service Providers* and *NEMMCO*, except where separate 'read-only' and 'write' passwords are not available, in which case the *Metering Provider* must allocate a password to *NEMMCO*, only.
- (d) The *Metering Provider* must hold 'read-only' and 'write' passwords.
- (e) The *Metering Provider* must forward a copy of the passwords held under clause 7.8.2(d) to *NEMMCO*.
- (f) Subject to clause 7.12(aa), *NEMMCO* must hold a copy of the passwords referred to in clause 7.8.2(e) for the sole purpose of revealing them to a *Metering Provider* in the event that the passwords cannot be obtained by the *Metering Provider* by any other means.
- (g) [Deleted]

### 7.8.3 Changes to metering equipment, parameters and settings

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

- (a) authorised by *NEMMCO* prior to the alteration being made;
- (b) implemented by a *Metering Provider*;
- (c) confirmed by the *responsible person* within 2 *business days* after the alteration has been made; and
- (d) recorded by *NEMMCO* in the *metering register*.

### 7.8.4 Changes to metering data

Alteration to the original stored data in a *meter* must not be made except during on-site accuracy testing of a *metering installation*.

## 7.9 Processing of Metering Data for Settlements Purposes{ XE “metering” }

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### 7.9.1 Metering databases

- (a) *NEMMCO* must create, maintain and administer a *metering database* (either directly or under a contract for provision of the database) containing information for each *metering installation* registered with *NEMMCO*.
- (b) *NEMMCO* may use *agency metering databases* to form part of the *metering database*.
- (b1) A person engaged by *NEMMCO* to provide *agency data collection systems* and *agency metering databases* must meet and comply with the service level requirements and any other criteria that *NEMMCO* establishes from time to time in relation to those functions, including accreditation requirements.

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- (c) The *metering database* must have the capacity for electronic access by relevant *Market Participants* and *Network Service Providers*.
- (d) The *metering database* must include original *energy* readings and, where relevant, *metering data* and *settlements ready data*.
- (e) Rights of access to data held within the *metering database* are set out in clause 7.7.
- (f) The *metering database* must contain historical data that is:
  - (1) held on line for 13 months in accessible format; and
  - (2) held for a further 5 years and 11 months in archive that is accessible independently of the format in which the data is stored.

### 7.9.2

#### Remote acquisition{ XE “~~data:remote acquisition~~” } of data

- (a) *NEMMCO* is responsible for the *remote acquisition* of the *metering data* and for storing this data as *settlements ready data* in the *metering database*. Such data may be used:
  - (1) by *NEMMCO* for *settlements* purposes in accordance with clause 7.9.1; or
  - (2) by *Distribution Network Service Providers* for the purpose of determining *distribution service* charges in accordance with clause 6.16.1.
- (b) If *remote acquisition* becomes unavailable, *NEMMCO* must arrange with the *responsible person* to obtain the relevant *metering data*.

[In paragraphs (a) and (b), ‘remote acquisition’ has been italicised in accordance with the new glossary term, for the purpose of removing reference to ‘daily delivery’ specified in clause 7.11]

### 7.9.3

#### Periodic energy metering

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

[The change is a consequence of NEMMCO being made responsible for the Metrology Procedure]

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

### 7.9.4

#### Data validation and substitution{ XE “data:validation and substitution” }

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- (a) *NEMMCO* is responsible for the validation and substitution of *metering data* which must be undertaken in accordance with the procedures developed by *NEMMCO* under clause 7.9.4(b).
- (b) *NEMMCO* must develop data validation, estimation and substitution procedures that produce *settlements ready data* in accordance with the *Rules consultation procedures* and the requirements of the ~~relevant~~ *metrology procedure* which have been prepared in accordance with clause 7.9.3. For the purpose of clarification, and if such a requirement is specified in the *metrology procedure*, the validation, estimation and substitution procedures are to include the method by which accumulated *metering data* is to be converted into *trading interval* data and the method of managing the first-tier *energy data* that is necessary to enable this conversion to take place.

[The word **estimation** added to the title of the data validation and substitution procedures to clarify the breadth of these procedures. The word **relevant** rendered unnecessary by creation of a single metrology procedure]

- (c) *Check metering data*, where available, must be used by *NEMMCO* to validate *metering data* provided that the *check metering data* has been appropriately adjusted for differences in *metering installation* accuracy.
- (d) If check metering data is not available or metering data cannot be recovered from the *metering installation* within the time required for *settlements*, then a substitute value is to be prepared by *NEMMCO* using a method agreed with the *Market Participant* and the *Local Network Service Provider*.

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[Editorial change]

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- (e) If *NEMMCO* detects a loss of *metering data* or incorrect *metering data* from a *metering installation*, it must notify the *Market Participant* and *Local Network Service Provider* within 24 hours of detection.

### 7.9.5 Errors found in metering tests, inspections or audits

- (a) If a *metering installation* test, inspection or audit, carried out in accordance with clause 7.6, demonstrates errors in excess of those prescribed in schedule 7.2 and *NEMMCO* is not aware of the time at which that error arose, the error is to be deemed to have occurred at a time half way between the time of the most recent test or inspection which demonstrated that the *metering installation* complied with the relevant accuracy requirement and the time when the error was detected.
- (b) If a test or audit of a *metering installation* demonstrates an error of measurement of less than 1.5 times the error permitted by schedule 7.2, no substitution of readings is required unless in *NEMMCO*'s reasonable opinion a particular party would be significantly affected if no substitution were made.
- (c) If any substitution is required under clause 7.9.5(b), then *NEMMCO* must provide substitute readings to effect a correction for that error in respect of the period since the error was deemed to have occurred.

### 7.10 Confidentiality{ XE “confidentiality” }

*Metering data* and passwords are confidential data and are to be treated as *confidential information* in accordance with the *Rules*.

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### 7.11 Performance of Metering Installation{ XE “metering installation” }

- (a) Where the *metering installation* has the capability for ~~the daily delivery~~ *remote acquisition* of *metering data* from a device(s) contained within the site of the *metering installation*, ~~metering data is required for all trading intervals:~~

- (1) ~~at the level of accuracy prescribed in schedule 7.2;~~ [Deleted]
- (2) ~~within the time required for settlements at a level of availability of at least 99% per annum for instrument transformers and other components of the metering installations, not including the communication link; and~~ [Deleted]
- (3) ~~within the time required for settlements at a level of availability of at least 95% per annum for the communication link;~~ [Deleted]

[Clauses 7.11(a)(1), (a)(2) and (a)(3) have been transferred to clause 7.11(a)(4) without alteration. The transfer has been introduced to enable a distinction to be made between remote acquisition and non-remote acquisition of metering data from a site when an interval meter and electronic communication to the site are available]

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(4) and NEMMCO requires actual metering data to ensure compliance with Chapter 3, metering data is required for all trading intervals:

**[In clause 7.11(a)(4) the reference to “actual” metering data is linked to clause 7.3.1(a)(9)]**

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

(B) within the timeframe required for settlements and prudential requirements specified in the procedures established by NEMMCO under clause 7.11(ab) at a level of availability of at least 99% per annum for instrument transformers and other components of the metering installations, not including the communication link; and

(C) within the timeframe required for settlements and prudential requirements specified in the procedures established by NEMMCO under clause 7.11(ab) at a level of availability of at least 95% per annum for the communication link;

or as otherwise agreed between NEMMCO and the responsible person-;  
or

**[Clause 7.11(a)(4) represents a relocation of clauses 7.11(a)(1), (a)(2) and (a)(3). The term “actual” has been added to qualify metering data to support the operation of clause 7.3.1(a)(9). It more appropriately describes the metering data that this clause relates to]**

(5) and NEMMCO does not require actual metering data to ensure compliance with Chapter 3, metering data is required for all trading intervals:

**[In clause 7.11(a)(5) the reference to “actual” metering data is linked to clause 7.3.1(a)(10)]**

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

(B) within the timeframe required for settlements specified in the procedures established by NEMMCO under clause 7.11(ab);

**[Clause 7.11(a)(5)(B) requires NEMMCO to identify the timeframe in a suitable procedure, which could be the metrology procedure, or it could be another document. NEMMCO is given the flexibility to determine the most appropriate document]**

(C) as actual, substituted or estimated in accordance with the procedures established by NEMMCO under clause 7.9.4(b); and

**[Clause 7.11(a)(5)(C) - “format” has been replaced by “actual, substituted or estimated” to clarify the intent of this requirement]**



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(D) in accordance with the performance standards specified in the procedures established by NEMMCO under clause 7.11(ab).

[Clause 7.11(a)(5)(D) requires NEMMCO to specify the quality standards of the delivered data in a suitable procedure]

[Clause 7.11(a)(5) allows for certain types of interval meters that are connected to electronic communication facilities to have their reading cycle relaxed. The performance controls imposed on this category of metering installation are identical to that imposed under clause 7.11(aa). The term “actual” has been added to qualify metering data to support the operation of clauses 7.3.1(a)(9) and 7.3.1(a)(10). It more appropriately describes the metering data that this clause relates to]

- (aa) Where the *metering installation* does not have the capability for ~~the daily delivery~~ remote acquisition of actual metering data arising from a device(s) contained within the site of a *metering installation*, *metering data* is required:

[In clause 7.11(aa) the reference to “actual” metering data has been added to support the operation of clause 7.3.1(a)(10)]

- (1) at the level of accuracy prescribed in schedule 7.2;
- (2) within the timeframe ~~and in the format~~ required for *settlements* as specified in the procedures established by NEMMCO under clause 7.11(ab) ~~in accordance with clause (b)~~;

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[Clause 7.11(aa)(2) has been separated into two paragraphs, (2) and (2a), to improve the reading of this clause]

(2a) as actual, substituted or estimated in accordance with the procedures established by NEMMCO under clause 7.9.4(b); and

[Clause 7.11(aa)(2a) - “format” has been replaced by “actual, substituted or estimated” to clarify the intent of this requirement]

- (3) in accordance with the performance standards specified in the procedures established by NEMMCO under clause 7.11(ab) ~~pursuant to Rules consultation procedures.~~;

[Clause 7.11(aa)(3) requires NEMMCO to specify the quality standards of the delivered data in a suitable procedure]

(ab) NEMMCO must establish procedures in accordance with the Rules consultation procedures that detail:

- (1) the parameters that determine when *metering data* must be delivered to NEMMCO for the purposes of Chapter 3. Such parameters must include, but are not limited to, the volume limit per annum below which NEMMCO will not require *metering data* for those purposes;

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- (2) the timeframe obligations for the extraction or delivery of metering data from a metering installation for the purpose of settlements;
- (3) the performance standards for metering data required for the purpose of settlements;

[Clause 7.11(ab) has been added to provide industry with improved certainty on the location and formality of information that is critical to the operation of types 4, 5 and 6 metering installations. This has arisen because a low volume type 4 metering installation is now able to delay the delivery of metering data beyond the daily delivery that was originally specified in the Code. The crossover volume limit within type 4 becomes an important feature for Market Participants that is entirely under NEMMCO’s control due to requirements for prudential supervision and settlements obligations]

- (b) If an *outage* or malfunction occurs to a *metering installation*, repairs must be made to the *metering installation* as soon as practicable and in any event within 2 *days* of detection or such time as detection should have reasonably occurred, unless an exemption is obtained from NEMMCO;
- (ba) NEMMCO must establish and *publish* a procedure applicable to the provision of exemptions in accordance with clause 7.11(b). NEMMCO may revise the procedure from time to time;
- (bb) If an exemption is provided by NEMMCO under 7.11(b) then the *Metering Provider* must provide NEMMCO with a plan for the rectification of the *metering installation*;
- (c) A *Registered Participant* who becomes aware of an *outage* or malfunction of a *metering installation* must advise NEMMCO as soon as practicable;

**7.12 Meter Time{ XE “metering installation” }**

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- (a) All *metering installation* and *data logger* clocks are to be referenced to Australian Eastern Standard Time and maintained to a standard of accuracy in accordance with the *load* through the *metering point* in accordance with schedule 7.2.
- (aa) The *responsible person* must provide to NEMMCO suitable remote data access to set the time function of the *metering installation*.
- (b) The *metering database* must be set within an accuracy of ±1 seconds of Australian Eastern Standard Time.

**7.13 Evolving Technologies and Processes and Development of the Market{ XE “development of the market” }**

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- (a) Evolving technologies or processes that:
  - (1) meet or improve the performance and functional requirements of this Chapter; or

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- (2) facilitate the development of the *market*,

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

- (b) No agreement contemplated by clause 7.13(a) can be entered into if it materially and adversely affects the interests of persons other than the *Market Participant(s)* and the *Local Network Service Provider* who are parties to the agreement.
- (c) *NEMMCO* must **publish** a report on the application of evolving technologies and processes. In particular, *NEMMCO* must:

(1) monitor developments in the Australian metering standards having regard to the need to remove barriers to the adoption of economically efficient metering solutions and other economically efficient technology; and

(2) consult with the *participating jurisdictions* and other interested parties on any changes proposed to be made to Australian standards that may introduce a barrier to the adoption of economically efficient metering solutions and other economically efficient technology;

[This paragraph has been amended to include Point 7.6 of the JJR recommendations]

- (d) *NEMMCO* must, at least annually, submit a written report to the *AEMC* on the extent to which this Chapter 7 may need to be amended in order to accommodate the evolving technologies and processes or the development of the *market*.
- (e) *NEMMCO* must, at least annually, prepare and **publish** a report on the impact of the introduction of retail competition on the wholesale market, including:

[Editorial change]

- (1) the scope for improvement in the operation of wholesale *market settlements*;
- (2) developments in metering technology suited to more timely operation of the *market*; and
- (3) the effectiveness of the provisions of Chapter 7.

(f) [Deleted]

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(j) [Deleted]

(k) The Ministers must, by 30 June 2008, jointly conduct and complete a review of type 5 and type 6 metering installations and the metrology procedure. The objectives of this review are:

(1) To review the outcomes from the Jurisdictional Regulators’ Joint Jurisdictional Review of Metrology Procedures: Final Report (October 2004) and where issues are identified, to make recommendations to resolve those issues;

(2) To identify any additional barriers to the adoption of economically efficient metering solutions and other economically efficient technology;

(3) To make recommendations to reduce those barriers where the additional barriers to the adoption of economically efficient metering solutions and other economically efficient technology are identified; and

(4) To have regard for the need to maintain the regulatory certainty provided as an outcome of the October 2004 Review, in recognition that regulatory uncertainty is a major barrier to the adoption of economically efficient metering solutions and other economically efficient technology.

**[refer to Point 10.1, 10.2, 10.3 of the JJR recommendations]**

\*\*\*\*\*

**NOTE that the following information, down to the start of Schedule 7.1, has been included for reference purposes only and does not form part of Chapter 7.**

Proposed Chapter 9 changes:

Clauses 9.9A.1, 9. 9A.2 and 9.9A.3 (Victoria): Delete

Clause 9. 17A.0, 9.17A.1 and 9.17A.2 (NSW): Delete

Clause 9. 24A.1, 9.24A.2 and 9.24A.3 (ACT): Delete

Clause 9. 30.1(2), 9.30.1(3) and 9.30.1(4) (South Australia): Delete

**[In deleting these clauses, the general reference to the applicability of clause 7.3.6(a) has been retained by transferring the intent of this provision to Chapter 7, clause 7.3.6(ac)]**

**GLOSSARY TERMS**

(Reproduced here to assist in the review of the changes to Chapter 7)

**active energy:** (change)

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, expressed in

~~W~~atthours (Wh)

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### [Editorial correction made to the unit of measure, as it is singular]

**energy data services:** (new, aligned with the NEM metrology procedure)

The services that involve collation of *energy data* from the meter or *meter/associated data logger*, the processing of the *energy data* in the *metering installation* database, storage of the *energy data* in the *metering installation* database and the provision of access to the data for those parties that have rights of access to the data.

**estimated energy data:** (change)

The data that results from an estimation of the flow of electricity in a power conductor where the data applies to a *trading interval* or a period in excess of a *trading interval*. The estimation is made in relation to a *market load* and would not apply to a *metering point* where *accumulated energy data* or *interval energy data* is not available, or ~~a non-metered an unmetered~~ *connection point*.

**general purpose:** (change)

The term applied by the National Measurement Institute to refer to the classification of a *meter*.

**interested parties:** (delete in part)

1. In Chapter 5, a person including an end user or its *representative* who, in *NEMMCO's* opinion, has or identifies itself to *NEMMCO* as having an interest in relation to the *network planning* and development activities covered under clause 5.6 or in the determination of *plant standards* covered under clause 5.3.3(b2).

2. In Chapter 6, a person, not being a *Registered Participant* or *NEMMCO*, who:

(a) in relation to the *Transmission Ring-Fencing Guidelines*, in the *AER's* opinion has, or who identifies itself to the *AER* as having, an interest in those Guidelines; or

(b) in relation to the *Distribution Ring-Fencing Guidelines*, in the relevant *Jurisdictional Regulator's* opinion has, or who identifies itself to the relevant *Jurisdictional Regulator* as having, an interest in those Guidelines.

3. ~~In Chapter 7, a person that a *Metrology Coordinator* considers to be an interested party.~~[Deleted]

4. In Chapter 2, a person including an end user or its *representative* who, in *NEMMCO's* opinion, has or identifies itself to *NEMMCO* as having an interest in relation to the structure of *Participant Fees*.

**jurisdictional policy directive:** (new)

The authorised policy position of a *participating jurisdiction* on *metering installations* types 5, 6 and 7 which is provided in writing to *NEMMCO* by the *Minister* for the purpose of including the authorised policy in the *metrology procedure* without alteration by *NEMMCO*, either directly or after consultation in accordance with *Rules consultation procedures*. *NEMMCO* may determine the format of the presentation of the authorised policy in the *metrology procedure*.

[The second sentence provides a guideline to *NEMMCO* on the formatting of the jurisdictional policy directive within the metrology procedure]

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### **metrology coordinator:** (delete)

In relation to a participating jurisdiction, the Jurisdictional Regulator for that participating jurisdiction. [Delete]

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### **metering installation:** (change)

The assembly of components and/or processes that are controlled for the purpose of metrology and which lie between the *metering point(s)* or *non-metered unmetered connection point* and the point of connection to the *telecommunications network*, as shown in schedule 7.1. The assembly of components may include the combination of several *metering points* to derive the *metering data* for a *connection point*. The *metering installation* must be classified as a *revenue metering installation* and/or a *check metering installation*.

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### **metrology procedure:** (change)

A document that contains information on the devices, *technical standards (including testing regimes and capabilities of Metering Providers)* and processes that are to be used to measure, or determine by means other than a device, the flow of electricity in a power conductor, to convey the measured or determined data to other devices using *communication link(s)*, to prepare the data using devices or algorithms to form *metering data* and to provide access to the *metering data* from a *telecommunication network*. ~~In relation to type 5 and 6 metering installations,~~ The document may also contain requirements for the engagement and payment of *Metering Providers* and, where applicable, must contain requirements for the provision of relevant details of the *metering installation* to the *responsible person*. The document can specify, in relation to *metering installations* types 5, 6 and 7 (as specified in schedule 7.2), in what circumstances *energy data* held in *metering installations* within the relevant *participating jurisdiction*, can be used by *Distribution Network Service Providers* to calculate charges for *distribution service* for the purposes of clause 6.16.1(e). *The document may contain one or more jurisdictional policy directives.*

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### **non-metered connection point:**

A *connection point* at which it is determined that a *meter* is not necessary in accordance with schedule 7.2. [Deleted – transferred unchanged to ‘unmetered connection point’]

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### **reactive energy:** (change)

A measure, in varhours (varh), of the alternating exchange of stored energy in inductors and capacitors, which is the time-integral of the product of voltage and the out-of-phase component of current flow across a connection point.

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[Editorial correction made to the unit of measure, as it is singular]

### **remote acquisition:** (new)

The acquisition of *metering data* from a *metering installation*, where the acquisition process is designed to transmit the *metering data* from the site of the *metering point* to the *metering database*, and does not, at any time, require the presence of a person at, or near, the *meter* for the purposes of data collection or data verification (whether this occurs manually as a walk by reading or through the use of a vehicle as a close proximity drive-by reading), and includes but is not limited to an interval *meter* that transmits *metering data* via: (1) direct dial-up; (2) satellite;

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(3) the internet; (4) a general packet radio service; (5) power line carrier; or (6) any other equivalent technology.

[This new definition has been added in place of the expression ‘daily delivery’, as found in clause 7.11(aa) and (a). The expression “site of the metering point” is consistent with clause 7.3.1(a)(9)]

**Type 5 accumulation boundary:** (new)

The volume of *energy* for a *connection point* above which the *metering data* that is extracted or emanates from a type 5 *metering installation* must be extracted or emanate as *interval energy data* for the purpose of producing *settlements ready data*. Below the *type 5 accumulation boundary*, the *metering data* may be extracted or emanate from the *metering installation* as *accumulated energy data* for the purpose of producing *settlements ready data*, in which case the *metering installation* must be registered with NEMMCO as a type 6 *metering installation*, otherwise the *metering data* may be extracted or emanate as *interval energy data* for the purpose of producing *settlements ready data* in which case the *metering installation* must be registered with NEMMCO as a type 5 *metering installation*.

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[The definition of a “type 5 accumulation boundary” is contained in the first sentence. The second sentence provides an explanation of the implications for market loads that are below the type 5 accumulation threshold]

**unmetered connection point:** (replaces non-metered connection point)

A *connection point* at which it is determined that a *meter* is not necessary ~~in accordance with~~ under schedule 7.2. [transferred unchanged from ‘non-metered connection point’]

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**verifying authorities:** (change)

Authorities appointed by the National Measurement Institute under the National Measurement Act 1960 (Cth).

\*\*\*\*\*

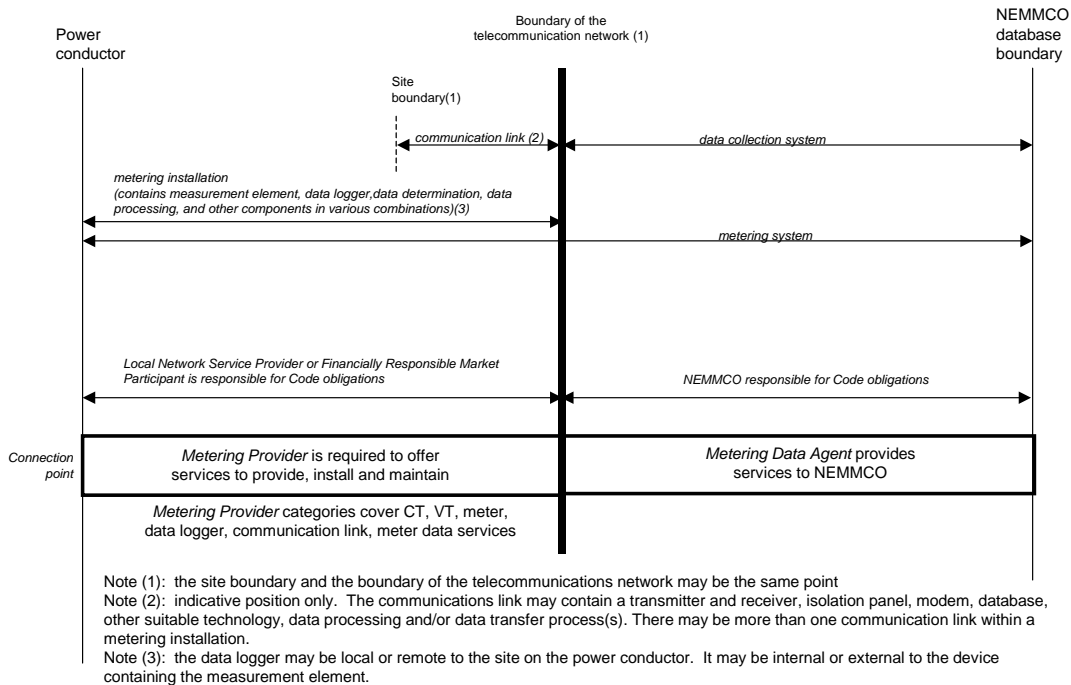
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**Schedule 7.1 - Responsibility for Metering{ XE “metering” }**

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**[Revised diagram with categories of Metering Provider added, and Metering Data Administrator replaced by Metering Data Agent]**



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### Schedule 7.2 Types and Accuracy of Metering Installations{ XE “metering installation” }

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#### S7.2.1 General requirements

- (a) The following are the minimum requirements for *metering installations*.
- (b) *Registered Participants* may install a *metering installation* of a higher level accuracy, with the full costs of this work being met by that *Registered Participant*.

#### S7.2.2 Metering installations commissioned prior to 13 December 1998

- (aa) This clause provides conditions that are to apply to *metering installations* that were commissioned prior to 13 December 1998.
- (a) The use of *metering class current transformers* and *voltage transformers* that are not in accordance with Table 1 of clause 3 (schedule 7.2) are permitted provided that where necessary to achieve the overall accuracy requirements:
  - (1) *meters* of a higher class accuracy are installed; and/or
  - (2) calibration factors are applied within the *meter* to compensate for *current transformer* and *voltage transformer* errors.
- (b) Protection *current transformers* are acceptable where there are no suitable *metering class current transformers* available and the overall accuracy and performance levels can be met.
- (c) Where the requirements of clause 2(a) (schedule 7.2) and clause 2(b) (schedule 7.2) cannot be achieved then the *responsible person* is required to comply with transitional arrangements or obtain an exemption from *NEMMCO* or upgrade the *metering installation* to comply with this schedule 7.2.
- (d) The arrangements referred to in clause 2(c) (schedule 7.2) may remain in force while the required accuracy and performance can be maintained within the requirements of the *Rules*.
- (e) The purchase of new *current transformers* and *voltage transformers* must comply with the *Rules*.

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**S7.2.3 Accuracy requirements for metering installations**

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Table S7.2.3.1 Overall Accuracy Requirements of Metering Installation Components  
 (note 1){ XE “Table 1 Overall Accuracy Requirements of Metering  
 Installation Components (note1) }

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Type	Volume limit per annum per connection point	Maximum allowable overall error (±%) at full load		Minimum acceptable class or standard of components	Metering installation or data logger Clock Error (Seconds) in reference to EST
		Active	reactive		
1	greater than 1000 GWh	0.5	1.0	0.2 CT/VT/Meter Wh 0.5 Meter varh	±5
2	100 to – 1000 GWh	1.0	2.0	0.5 CT/VT/ Meter Wh 1.0 Meter varh	±7
3	0.75 to less than 100 GWh	1.5	3.0	0.5 CT/VT 1.0 Meter Wh 2.0 Meter varh	±10
4	less than 750 MWh (note 2)	1.5	NA	Either 0.5 CT and 1.0 Meter Wh; or whole current connected <i>General Purpose meter MWh:</i> <ul style="list-style-type: none"> <li>with a <i>data logger</i>; and</li> <li>meets the requirements of clause 7.11(a)</li> </ul>	±20 (note 2a)

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5	Less than x MWh (note 3)	1.5 (note 3b)	NA	Either 0.5CT and 1.0 meter Wh; or whole current connected <i>General Purpose meter Wh;</i> <ul style="list-style-type: none"> <li>with a <i>data logger</i>; and</li> <li>meets the requirements of clause 7.11(aa)</li> </ul>	±20 (note 3a)
6	Less than y MWh (note 4)	1.5 (note 4b)	NA	CT or whole-current connected <i>General Purpose meter Wh</i> with data processing used to convert <i>accumulated energy data</i> into <i>metering data</i> and to provide <i>estimated energy data</i> where necessary.	(note 4a)
7	Volume limit not specified (note 5)	(note 6)	NA	No <i>meter</i> Techniques for determination of <i>estimated energy data</i> to be included in the <i>metrology procedure</i> .	NA

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Note 1: For types 3, 4, 5 and 6 *metering* installations, it is acceptable to use direct connected *meters* meeting the relevant requirements of AS 1284.1 "Electricity Metering - General Purpose Watt hour Meters". The *metering installation* must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Standards Commission ~~Measurement Institute~~ under the National Measurement Act 1960 (Cth).

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**[Editorial change. Change of name for the National Standards Commission. Removal of italics for National Measurement Act]**

Note 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.

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

Note 3: A type 5 *metering installation* will use a must comply with the metrology procedure established and approved by the relevant ~~*Metrology Coordinator*~~ for the purpose of when converting *active energy* into *metering data*. The value of “x” is to must be determined by the relevant ~~*Metrology Coordinator*~~ Minister and must be provided as a jurisdictional policy directive to NEMMCO. The maximum acceptable value of “x” is 750 MWh per annum. The *metering installation* may provide delays in transferring the *interval energy data* to a remote location where access to a *telecommunications network* has been established. Where such delays are approved by the relevant ~~*Metrology Coordinator*~~ Minister, the approval must be provided as a jurisdictional policy directive to NEMMCO. ~~The metrology procedure is to~~ must record the value of “x” for each jurisdiction, and indicate how *interval energy data* will be established for type 5 metering installations in that participating jurisdiction during the period of delay.

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**[The change is a consequence of another change. The note has been revised in accordance with the outcomes of the legal review]**

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

**[The change is a consequence of another change]**

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

**[The change is in part a consequence of another change. Editorial change due to the removal of italics on National Measurement Act]**

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Note 4: A *metrology procedure* is to ~~be prepared and approved~~ **published** by the relevant ~~Metrology Coordinator~~ **NEMMCO** for the purpose of converting *active energy* into *metering data*. The value of “y” is to ~~be determined by the relevant Metrology Coordinator~~ **Minister and must be provided as a jurisdictional policy directive to NEMMCO**. The maximum acceptable value of “y” is 750 MWh per annum. This *metering installation* type provides for *accumulated energy data* to be transferred to a remote location where access to a *telecommunication network* has been established. The *metrology procedure* is to ~~record the value of “y” for each participating jurisdiction, and~~ identify the method by which *accumulated energy data* is to be converted into *trading interval data* in accordance with clause 7.9.3(b), and the method by which *estimated energy data* is to be prepared during the period when the *accumulated energy data* is not available. Devices within the *metering installation* may provide *accumulated energy data* in pre-determined *daily* time periods where such time periods are contained in the ~~applicable~~ *metrology procedure*.

**[The change is a consequence of another change]**

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

Note 4b: The maximum allowable error of a type 6 *metering installation* may be relaxed by the relevant ~~Metrology Coordinator~~ **NEMMCO** providing that such relaxation is consistent with any regulations published under the National Measurement Act.

**[The change is in part a consequence of another change. Editorial change due to the removal of italics on National Measurement Act]**

Note 5: A type 7 *metering installation* applies to the condition where it has been agreed between the relevant ~~Metrology Coordinator~~ **Minister** and **NEMMCO** that 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 *energy data* that is deemed to flow in the power conductor. This condition will only be allowed for a *market load* that is supplied with electricity and has a load pattern which is the same as or similar to one of the following arrangements:

**[The change is a consequence of another change]**

- (a) street, traffic, park, community, security lighting;
- (b) traffic parking meters, community watering systems;
- (c) special telephone service requirements;
- (d) devices requiring minuscule loads.

The *metrology procedure* must include each *market load* arrangement that has been classified as a type 7 *metering installation*.

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

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Table S7.2.3.2 Type 1 Installation - Annual Energy Throughput greater than 1,000 GWh{ XE “Table 2 Type 1 Installation - Annual Energy Throughput greater than 1,000 GWh” }

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

Table S7.2.3.3 Type 2 Installation - Annual Energy Throughput between 100 and 1,000 GWh{ XE “Table 3 Type 2 Installation - Annual Energy Throughput between 100 and 1,000 GWh” }

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% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	1.4%	1.4%	2.8%	n/a	n/a	2.8%
50	1.0%	1.0%	2.0%	1.0%	2.0%	2.0%
100	1.0%	1.0%	2.0%	n/a	n/a	2.0%

Table S7.2.3.4 Type 3 Installation - Annual Energy Throughput from 0.75GWh to less than 100GWh{ XE “Table 4 Type 3 Installation - Annual Energy Throughput from 0.75GWh to less than 100GWh” }

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

Table S7.2.3.5 Type 4 Installation - Annual Energy Throughput less than 0.75 GWh{ XE “Table 5 Type 4 Installation - Annual Energy Throughput less than 0.75 GWh” }

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% Rated Load	Power Factor		
	Unity	0.866 lagging	0.5 lagging

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	active	active	active
10	2.0%	2.0%	n/a
50	1.5%	1.5%	1.5%
100	1.5%	1.5%	n/a

(NOTE: All measurements in Tables 2-5 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, ie  $\underline{a} + \underline{b} + c$ , where:

a = the error of the *Voltage Transformer* and wiring

b = the error of the *Current Transformer* and wiring

c = the error of the *Meter*.

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

**S7.2.4. Check metering**

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

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

- (b) A *check metering installation* involves either:
  - (1) the provision of a separate *metering installation* using separate *current transformer* cores and separately fused *voltage transformer* secondary circuits, preferably from separate secondary windings: or
  - (2) if in *NEMMCO*'s absolute discretion it is considered appropriate, in the case of a *metering installation* located at the facility at one end of the *two-terminal link*, a *metering installation* located at the *facility* at the other end of a *two-terminal link*.
- (c) Where the *check metering installation* duplicates the *revenue metering installation* and accuracy level, the average of the two validated data sets will be used to determine the *energy* measurement.
- (d) *Partial check metering* involves the use of other *metering data* or operational data available to *NEMMCO* in 30 min electronic format as part of a validation process in accordance with clause 7.9.4.

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- (e) The physical arrangement of partial *check metering* shall be agreed between the *responsible person* and *NEMMCO*.
- (f) *Check metering installations* may be supplied from secondary circuits used for other purposes and may have a lower level of accuracy than the *revenue metering installation*, but must not exceed twice the level prescribed for the *revenue metering installation*.

### S7.2.5. Resolution and accuracy of displayed or captured data{ XE “data” }

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Any programmable settings available within a *metering installation*, *data logger* or any peripheral device, which may affect the resolution of displayed or stored data, must meet the relevant requirements of AS 1284 or IEC 1036 and must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National ~~Standards Commission~~ Measurement Institute under the National Measurement Act 1960 (Cth).

[Editorial change. Change of name for the National Standards Commission. Removal of italics for National Measurement Act]

### S7.2.6. General design standards

#### S7.2.6.1 Design requirements{ XE “design” }

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

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

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- (f) *Meters* must meet the relevant requirements of AS 1284 or IEC 1036 and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National ~~Standards Commission~~ Measurement Institute under the National Measurement Act 1960 (Cth).

**[Editorial change. Change of name for the National Standards Commission. Removal of italics for National Measurement Act]**

- (g) New *instrument transformers* must meet the relevant requirements of AS 1675 for *current transformers* and AS 1243 for *voltage transformers* and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National ~~Standards Commission~~ Measurement Institute under the National Measurement Act 1960 (Cth).

**[Editorial change. Change of name for the National Standards Commission. Removal of italics for National Measurement Act]**

- (h) Suitable *isolation* facilities are to be provided to facilitate testing and calibration of the *metering installation*.
- (i) Suitable drawings and supporting information, detailing the *metering installation*, must be available for maintenance and auditing purposes.

S7.2.6.2 Design guidelines{ XE “~~design~~” }

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

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

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**Schedule 7.3 - Inspection and Testing Requirements{ XE “~~inspection and testing requirements~~” }**

**S7.3.1. General**

- (a) The *responsible person* must ensure that *metering* equipment purchased has National ~~Standards Commission~~ Measurement Institute pattern approval from an accredited laboratory recognised under the International Certification Scheme in accordance with specifications or guidelines (including transitional arrangements) specified by the National ~~Standards Commission~~ Measurement Institute under the National Measurement Act 1960 (Cth). The *responsible person* must provide the relevant approval certificates to NEMMCO on request.

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**[Editorial change. Change of name for the National Standards Commission. Removal of italics for National Measurement Act]**



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- (b) The *responsible person* must ensure that equipment comprised in a *metering installation* purchased has been tested to the required class accuracy with less than the following uncertainties:

Class 0.2 CT/VT	$\pm 0.05\%$
Class 0.2 Wh meters	$\pm 0.05/\cos\Phi\%$
Class 0.5 CT/VT	$\pm 0.1\%$
Class 0.5 Wh meters	$\pm 0.1/\cos\Phi\%$
Class 0.5 varh meters	$\pm 0.2/\sin\Phi\%$
Class 1.0 Wh meters	$\pm 0.2/\cos\Phi\%$
Class 1.0 varh meters	$\pm 0.3/\sin\Phi\%$
<i>General Purpose meters</i>	$\pm 0.3/\cos\Phi\%$
Class 2.0 varh meters	$\pm 0.4/\sin\Phi\%$

Appropriate test certificates are to be kept by the equipment owner.

- (c) The *responsible person* must ensure that testing of the *metering installation* is carried out:
- (1) in accordance with this schedule 7.3, or
  - (2) in accordance with an asset management strategy that defines an alternative testing practice (ie other than time-based) determined by the *responsible person* and approved by *NEMMCO*;
  - (3) in accordance with a test plan which has been registered with *NEMMCO*; and
  - (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) Other affected parties may witness the tests on request to the *responsible person*.
- (e) *NEMMCO* must review the prescribed testing requirements in this schedule 7.3 every 5 years in accordance with equipment performance and industry standards.
- (f) The *responsible person* must:
- (1) provide the test results to *NEMMCO*;
  - (2) advise each affected *Market Participant* of the outcome of the tests; and

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- (3) provide the results of the test to each affected *Registered Participant* on request.
  
- (g) The testing intervals may be increased if the equipment type/experience proves favourable.

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

{ XE “Table 1 Maximum Allowable Level of Testing Uncertainty ( $\pm$ )” }

Description		Metering Installation Type				
		Type 1	Type 2	Type 3	Type 4	Type 5 & 6
In Laboratory	CTs / VTs	0.05%	0.1%	0.1%	0.1%	0.1%
	Meters Wh	0.05/cos $\phi$ %	0.1/cos $\phi$ %	0.2/cos $\phi$ %	0.2/cos $\phi$ %	0.3/cos $\phi$ %
	Meters varh	0.2/sin $\phi$ %	0.3/sin $\phi$ %	0.4/sin $\phi$ %		N/A
In Field	CTs / VTs	0.1%	0.2%	0.2%	0.2%	0.2%
	Meters Wh	0.1/cos $\phi$ %	0.2/cos $\phi$ %	0.3/cos $\phi$ %	0.3/cos $\phi$ %	0.3/cos $\phi$ %
	Meters varh	0.3/sin $\phi$ %	0.4/sin $\phi$ %	0.5/sin $\phi$ %		N/A

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Table S7.3.2 Maximum Period Between Tests

{ XE “Table 2 Maximum Period Between Tests” }

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

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Table S7.3.3 Period Between Inspections

{ XE “Table 3 Period Between Inspections” }

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

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**S7.3.2. Notes (These are technical guidelines{ XE “technical guidelines” })**

- (a) Current transformer and voltage transformer tests are primary injection tests or other testing procedures as approved by NEMMCO.
- (b) All reference/calibrated equipment shall be tested to ensure full traceability to Australian national measurement standards through verifying authorities or directly referenced to the National Measurement Institute.

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**[Editorial change - National Measurement Laboratory subsumed within the National Measurement Institute]**

- (c) The calculations of accuracy based on test results, are to include all reference standard errors.
- (d) An “estimate of testing uncertainties” must be calculated in accordance with the ISO “Guide to the Expression of Uncertainty for Measurement”.
- (e) Where operational metering is associated with settlements metering then a shorter period between inspections is recommended.
- (f) For  $\sin\phi$  and  $\cos\phi$  refer to the ISO “Guide to the Expression of Uncertainty in Measurement”, where  $\cos\phi$  is the power factor.
- (g) A typical inspection may include: Check the seals, compare the pulse counts, compare the direct readings of meters, verify meter parameters and physical connections, current transformer ratios by comparison.

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**Schedule 7.4 - Metering Provider**

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**S7.4.1 General**

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

[The change is a consequence of another change]

**S7.4.2 Categories of registration**

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- (a) Registrations, in relation to *metering installation* types 1, 2, 3 and 4, must be categorised in accordance with Tables S7.4.1, S7.4.2 and S7.4.3 or other procedures approved by *NEMMCO*;
- (b) In relation to *metering installation* types 5, 6 and 7, *NEMMCO* must establish categories of registration which are consistent with the service requirements established in the ~~relevant~~ metrology procedures.

[The change is a consequence of another change]

(c) *NEMMCO* may establish an Accredited Service Provider category of registration for a *Metering Provider* in accordance with clause S7.4.5;

[Clause S7.4.2(c) has been introduced specifically to facilitate the development of accreditation for the NSW ASP scheme, but is generic enough to be applied to all jurisdictions if appropriate]

Table S7.4.1 Categories of registration for accreditation

{ XE “Table 1 Categories of registration” }

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Category	Competency
1C	Class 0.2 CTs with < 0.1% uncertainty.
1V	Class 0.2 VTs with < 0.1% uncertainty.

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

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Table S7.4.2 Categories of registration for accreditation{ XE “Table 2 Categories of registration” }

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Category	Competency
3M	Class 1.0 Wh meters with $< 0.3/\cos\phi\%$ uncertainty and class 2.0 varh meters with $< 0.5/\sin\phi\%$ uncertainty.
3A	Class 0.5 CTs, VTs; class 1.0 Wh meters; class 2.0% varh meters; the total installation to 1.5%. Wh with $< 0.5\%$ uncertainty at unity <i>power factor</i> ; 3.0% for varh with $< 0.6\%$ uncertainty at zero <i>power factor</i> .
4M	Class 1.0 Wh meters and class 1.5 Wh meters with $< 0.3/\cos\phi\%$ uncertainty

Table S7.4.3 Categories of registration for accreditation{ XE “Table 2 Categories of registration” }

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Category	Competency
L	Approved Communication Link Installer

**S7.4.3 Capabilities of Metering Providers for metering installations types 1, 2, 3 and 4{ XE “Metering Providers” }**

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

- (a) Detailed design and specification of *metering* schemes, including:

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- (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, data loggers, etc.*, being released for installation;
  - (5) all reference/calibration equipment to be tested to ensure full traceability to *Australian Standards* through *verifying authorities* or directly from the National Measurement Institute; and
- [Editorial change - National Measurement Laboratory subsumed within the National Measurement Institute]
- (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* including the remote accessing of data, including:
- (1) the use of calibrated test equipment to perform primary injection tests and field accuracy tests;
  - (2) the availability of trained and competent staff to install and test *metering installations* to determine that installation is correct; and

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- (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 *data loggers* or recorders to be used (6 monthly) and verification with *NEMMCO* records;
  - (2) approved test and inspection procedures to perform appropriate tests as detailed in this Chapter 7;
  - (3) calibrated field test equipment for primary injection and *meter* testing to the required levels of uncertainty; and
  - (4) secure documentation system to maintain *metering* records for all work performed on a *metering installation*, including details of the security method used.
- (e) Verification of *revenue metering data* and *check metering data*, as follows:
  - (1) on commissioning *metering data*, verification of all readings, constraints (adjustments) and multipliers to be used for converting raw data to consumption data; and
  - (2) on inspection, testing and/or maintenance, verification that readings, constants and multipliers are correct by direct conversion of *meter readings* and check against the *metering database*.
- (f) Quality System as AS 9000 series standards, including:
  - (1) a quality system to AS/NZ ISO 9000 series applicable to the work to be performed:

Type 1	-	full implementation of AS/NZ ISO 9002;
Type 2	-	full implementation of AS/NZ ISO 9002;
Type 3	-	implementation of AS/NZ ISO 9002 to a level agreed with <i>NEMMCO</i> ;
Type 4	-	implementation of AS/NZ ISO 9002 to a level agreed with <i>NEMMCO</i> ;
  - (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



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- (4) a knowledge and understanding of the appropriate standards and guides, including those in the *Rules*.

### S7.4.4 Capabilities of Metering Providers for metering installations types 5, 6 and 7{ XE “Metering Register” }

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

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

[The change is a consequence of another change]

### S7.4.5 Capabilities of Accredited Service Provider

- (a) A *Metering Provider* who is registered in the category of Accredited Service Provider may only perform work on a type 5 or type 6 *metering installation* for the purpose of installing that *metering installation*;
- (b) *NEMMCO* must include the Accredited Service Provider category in the accreditation guidelines prepared and *published* under clause 7.4.2(ba);
- (c) *NEMMCO* may determine the competencies of a *Metering Provider* registered in the category of an Accredited Service Provider;
- (d) *NEMMCO* may determine different Accredited Service Provider competencies for each *participating jurisdiction*;
- (e) The Accredited Service Provider competencies determined under clause S7.4.5(c) must be consistent with the service requirements established in the *metrology procedure* in respect of the work to be performed under clause S7.4.5(a).

[Clause S7.4.5 has been introduced to list the principles that will govern the registration of a Metering Provider in the category of ASP. This clause should be read in conjunction with clauses S7.4.1(b), and 7.4.2(ba) regarding the establishment of an accreditation process]

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### Schedule 7.5 - Metering Register{ XE “Metering Register” }

#### S7.5.1. General

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

#### S7.5.2. Metering register information

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

- (a) *Connection* and *metering point* reference details, including:
  - (1) agreed locations and reference details (eg drawing numbers);
  - (2) loss compensation calculation details;
  - (3) site identification names;
  - (4) details of *Market Participants* and *Local Network Service Providers* associated with the *connection point*;
  - (5) nomination of the *responsible person*; and
  - (6) transfer date for *Second-Tier Customer* and *Non-Registered Second-Tier Customer metering data* (i.e. to another *Market Customer*).
- (b) The identity and characteristics of *metering* equipment (ie *instrument transformers*, *revenue metering installation* and *check metering installation*), including:
  - (1) serial numbers;
  - (2) *metering installation* identification name;

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- (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)* 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 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 and substitution processes agreed between affected parties, including:
- (1) algorithms;
  - (2) data comparison techniques;
  - (3) processing and alarms (eg *voltage* source limits; phase-angle limits);
  - (4) *check metering* compensation details; and
  - (5) alternate data sources.
- (e) Data processing prior to the *settlement* process, including algorithms for:
- (1) *generation* half-hourly ~~sent-out~~ calculation;
  - (2) customer half-hourly *load* calculation; and
  - (3) *Local Retailer* net *load* calculation.

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# Chapter 7 - Metering

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