NORTHERN TERRITORY OF AUSTRALIA

NATIONAL ELECTRICITY (NORTHERN TERRITORY) (NATIONAL UNIFORM LEGISLATION) (MODIFICATION) AMENDMENT REGULATIONS 2017

Subordinate Legislation No. 17 of 2017

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NORTHERN TERRITORY OF AUSTRALIA

Subordinate Legislation No. 17 of 2017*

National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Amendment Regulations 2017

I, John Laurence Hardy, Administrator of the Northern Territory of Australia, acting with the advice of the Executive Council, make the following regulations under the *National Electricity (Northern Territory) (National Uniform Legislation) Act*.

Dated 29 June 2017

J. L. HARDY
Administrator

By His Honour's Command

N. K. FYLES
Attorney-General and Minister for Justice
acting for
Treasurer

* Notified in the *Northern Territory Government Gazette* on 29 June 2017.

1 Citation

These Regulations may be cited as the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Amendment Regulations 2017*.

2 Commencement

These Regulations commence on 1 July 2017.

3 Regulations amended

These Regulations amend the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*.

4 Regulation 2A inserted

After regulation 2, in Part 1

insert

2A Definitions

In these Regulations:

2014 NT Network Price Determination, for Part 3, see regulation 4(1).

applicable regulatory instruments, for Part 3, see regulation 4(1).

local support, for Part 3, see regulation 4(1).

5 Regulation 4 amended

Regulation 4(2), before "or"

insert

, 6A

6 Regulation 5A inserted

After regulation 5

insert

5A Application of Rules in this jurisdiction

(1) The following provisions of the National Electricity (NT) Rules have no effect in this jurisdiction:

(a) Chapter 1, rule 1.11;

(b) Chapters 2, 2A, 3 and 4;

(c) Chapter 5, rules 5.1 to 5.9, clauses 5.10.1, 5.10.3, 5.12.1(b)(3) and 5.12.2(c)(1), (5)(v), (6) and (8), rules 5.14 to 5.22, schedules 5.1a to 5.6, schedule 5.8, paragraphs (b)(5)(iii), (h) and (i) and schedule 5.9, paragraph (h);

(d) Chapter 5A, clauses 5A.A.3, 5A.D.1(a)(7) and (b) and 5A.D.1A and Part G;

(e) Chapter 6, clauses S6.2.1(d) and S6.2.2;

(f) Chapters 6A, 6B and 7;

(g) Chapter 8, clauses 8.1.3(b)(5) and (7), 8.6.1(d) and (e), 8.6.2(l), 8.6.6, 8.6.7, 8.7.2(a)(2) and (4) and (b)(2) and 8.7.6 and Parts E and G;

(h) Chapter 11, Parts A to ZZI, ZZK, ZZL, ZZN (except for clause 11.86.8), ZZO to ZZT, ZZV and ZZX.

(2) The following provisions of the National Electricity (NT) Rules have no effect in this jurisdiction until 1 July 2019:

(a) Chapter 5, rules 5.0 and 5.0A, clause 5.10.2, rules 5.11, 5.12 (other than clauses 5.12.1(b)(3) and 5.12.2(c)(1), (5)(v), (6) and (8)), 5.13 and 5.13A and schedules 5.7, 5.8 (other than paragraphs (b)(5)(iii), (h) and (i)) and 5.9 (other than paragraph (h));

(b) Chapter 5A, clause 5A.A.2, Parts B, C (other than clause 5A.C.1(c) and (d)) and D (other than clauses 5A.D.1(a)(7) and (b) and 5A.D.1A), clauses 5A.E.2 and 5A.E.4 (other than the note to paragraph (c)), Part F (other than clause 5A.F.5(b)(2)) and schedule 5A.1;

(c) Chapter 6, clause 6.18.9(a)(3), Parts J to N and clause S6.2.2B(b) and (c);

(d) Chapter 7A;

(e) Chapter 8, Parts B and H;

(f) Chapter 11A.

(3) The following provisions of the National Electricity (NT) Rules have no effect in this jurisdiction until the National Energy Retail Law is applied as a law of this jurisdiction:

(a) Chapter 5A, clause 5A.C.1(c) and (d), the note to clause 5A.E.4(c) and clause 5A.F.5(b)(2);

(b) Chapter 6, clause 6.6.1(a1)(4), (c)(6)(iii), (l) and (m).

7 Regulation 6 amended

Regulation 6, heading, at the end

insert

in relation to local events

8 Regulation 6A inserted

After regulation 6

insert

6A Modification to operation of clause 6.6.1 in relation to NT transitional regulatory change event

In relation to a *pass through event* that is a NT transitional regulatory change event prescribed by regulation 10A, the operation of clause 6.6.1 of the National Electricity (NT) Rules is modified as follows:

(a) the reference in clause 6.6.1(c) to "within 90 *business days* of the relevant *positive change event* occurring" must be regarded as a reference to "within 90 *business days* of the commencement of the *1st regulatory control period*";

(b) the reference in clause 6.6.1(c)(5), (d)(2) and (e)(2) to "in the *regulatory year* in which, and each *regulatory year* after that in which, the *positive change event* occurred" must be regarded as a reference to "in each *regulatory year* of the *1st regulatory control period*";

(c) the text in clause 6.6.1(f)(3)(i) and (ii) must be regarded as a reference to "the end of the *1st regulatory control period*";

(d) the reference in clause 6.6.1(f)(5) and (g)(2)(ii) to "in the *regulatory year* in which, and each *regulatory year* after that in which, the *negative change event* occurred" must be regarded as a reference to "in each *regulatory year* of the *1st regulatory control period*";

(e) the text in clause 6.6.1(j)(2)(i) and (ii) and (2A)(i) and (ii) must be regarded as a reference to "the end of the *1st regulatory control period*";

(f) the reference in clause 6.6.1(j)(4) to "*regulatory control period* in which the *pass through event* occurred" must be regarded as a reference to "*1st regulatory control period*";

(g) the reference in clause 6.6.1(j)(7) to "*regulatory control period* in which the *pass through event* occurred or will be factored into the calculation of the *Distribution Network Service Provider's annual revenue requirement* for a subsequent *regulatory control period*" must be regarded as a reference to "*1st regulatory control period*";

(h) all references in clause 6.6.1 to "*required pass through amount*" must be regarded as references to "the costs of providing *distribution services* or *transmission services* that are direct control network services (as opposed to the revenue impact) that, as a result of the *negative change event*, the *Network Service Provider* has saved, and is likely to save, until the end of the *1st regulatory control period*".

9 Regulation 9 replaced

Regulation 9, in Part 3

repeal, insert

9 Further modifications to operation of Rules commencing on 1 December 2017

Schedule 3 has effect.

9A Further modifications to operation of Rules commencing on 1 July 2019

Schedule 4 has effect.

10 Part 4 heading amended

Part 4, heading

omit

Local event

insert

Matters prescribed

11 Section 10A inserted

After regulation 10, in Part 4

insert

10A NT transitional regulatory change event

(1) For clause 6.6.1(a1)(1AB) of the National Electricity (NT) Rules, a NT transitional regulatory change event is the sum of the changes in relevant obligations that occur between 1 July 2017 and 30 June 2019 if those changes, taken as a sum:

(a) substantially affect the manner in which a *Network Service Provider* provides direct control services; and

(b) result in a material increase or material decrease in the costs of providing those services.

(2) For regulation 10A(1)(b), a material increase or material decrease in the costs of providing direct control services occurs if the change in costs (as opposed to the revenue impact) incurred, or likely to be incurred, by a *Network Service Provider* in any *regulatory year* of the *1st regulatory control period* exceeds 1% of the *annual revenue requirement* for the *Network Service Provider* for that *regulatory year*.

(3) In this regulation:

direct control service means a *distribution service* or *transmission service* that is a direct control network service.

relevant obligation means a regulatory obligation or requirement, other than an obligation or requirement:

(a) in an Act or instrument that was enacted or made on or before 1 July 2017 (even if the obligation or requirement commences after 1 July 2017); or

(b) arising from any repeal, amendment, variation or modification to the National Electricity Law, National Electricity Regulations or National Electricity Rules except as made by or under the Act; or

(c) that the *AER* has considered or accounted for in a distribution determination for the *1st regulatory control period*.

(4) An expression used in this regulation that is italicised has the same meaning as it has in the National Electricity (NT) Rules.

(5) For subregulation (3), definition ***relevant obligation***, the reference in section 2D of the National Electricity (NT) Law, definition ***regulatory obligation or requirement***, subsection (1)(b)(v) to "materially affects" must be regarded as a reference to "affects".

12 Regulation 11 replaced

Regulation 11

repeal, insert

11 Expiry of certain provisions

(1) Schedule 2, clauses 64, 65, 71, 76 and 100 expire on 1 July 2019.

(2) The following expire on 1 July 2024:

(a) regulations 6A, 7 and 10A;

(b) Schedule 1, clause 3;

(c) Schedule 2, clauses 46, 48, 58, 59, 66, 67, 73 and 101.

(3) Schedule 2, clauses 77, 78, 80, 82 and 102 expire on 1 July 2029.

(4) The following expire when the National Energy Retail Law is applied as a law of this jurisdiction:

(a) regulations 6 and 10;

(b) Schedule 2, clauses 57 and 103.

(5) Regulations 2A and 4 expire on the later of the following:

(a) the day on which the National Energy Retail Law is applied as a law of this jurisdiction;

(b) 1 July 2024.

(6) This Part expires on the later of the following:

(a) the day on which the National Energy Retail Law is applied as a law of this jurisdiction;

(b) 1 July 2029.

13 Schedule 1 amended

Schedule 1, Parts 2 to 4

omit, insert

Part 2 Modifications

2 Regulation 8 modified

After regulation 8(2)

insert

(2A) For the purposes of subregulation (1)(d), the reference to "the national electricity system" in the national electricity objective stated in section 7 of the new National Electricity Law must be regarded as including a reference to one or more, or all, of the local electricity systems, as the case requires.

3 Regulation 9 modified

(1) Before regulation 9(1)

insert

(1AA) For the purposes of paragraph (a) of the definition of ***reviewable regulatory decision*** in section 71A of the new National Electricity Law, if a distribution determination accounts for an amount mentioned in clause 6.6.1AA, 6.6.1AB or 6.11.1(ba) of the Rules, the distribution determination is not a reviewable regulatory decision to the extent it accounts for that amount.

(2) After regulation 9(1)

insert

(1A) However, a determination that, under clause 6.6.1AA of the Rules, is taken to have been made under clause 6.6.1(d) or 6.6.1(g) of the Rules is not a reviewable regulatory decision.

(3) Regulation 9, at the end

insert

Note–

The modifications to this regulation expire on 1 July 2024.

4 Schedule 2 modified

Schedule 2, clause 22, at the end

insert

However, this clause has no effect in this jurisdiction.

14 Schedule 2 amended

Schedule 2, Parts 2 to 7

omit, insert

Part 2 Modifications

2 Clauses 1.7.1A and 1.7.1B inserted

After clause 1.7.1

insert

1.7.1A Inconsistency with National Measurement Act

If there is an inconsistency between the *Rules* and the *National Measurement Act*, the *National Measurement Act* prevails to the extent of the inconsistency.

1.7.1B Instruments

(a) In an instrument made under the *Rules*:

(1) a reference to the "National Electricity Law", "Law" or "NEL" must be regarded as a reference to the National Electricity (NT) Law; and

(2) a reference to the "National Electricity Rules", "Rules" or "NER" must be regarded as a reference to the National Electricity Rules as defined in section 2(1) of the National Electricity (NT) Law.

(b) Paragraph (a) applies despite any provision to the contrary in an instrument.

(c) For the purposes of the application in this jurisdiction of an instrument made under the *Rules*:

(1) the reference to "the national electricity system" in the national electricity objective stated in section 7 of the Law must be regarded as a reference to one or more, or all, of the local electricity systems, as the case requires;

(2) if the context or subject matter indicates or requires, a reference in the instrument to:

(i) "regulatory control period" must be regarded as including a reference to the *2009-14 NT regulatory control period* and the *2014-19 NT regulatory control period*; and

(ii) "distribution determination" must be regarded as including a reference to the 2009 NT Network Price Determination and the *2014 NT Network Price Determination*; and

(3) the *AER* must interpret the instrument consistently with the objects of the application Act of this jurisdiction and the modifications made to the National Electricity Law and the *Rules* by or under that Act.

(d) In this clause:

2009 NT Network Price Determination means the "Final Determination – Networks Pricing: 2009 Regulatory Reset" made by the *Utilities Commission* under the *Utilities Commission Act* (NT), *Electricity Reform Act* (NT) and Chapter 6 of the *NT Network Access Code* that applied from 1 July 2009 to 30 June 2014.

3 Clause 1.8.1 modified

Clause 1.8.1(b)

omit

of *Registered Participants* maintained by *AEMO*

insert

kept by the *Utilities Commission* under section 37 of the *Electricity Reform Act* (NT)

4 Rule 1.11 modified

After rule 1.11, heading

insert

Note:

This rule has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

5 Chapters 2, 2A, 3 and 4 modified

After Chapters 2, 2A, 3, and 4, headings

insert

Note:

This Chapter has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of this Chapter will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

6 Rules 5.0 and 5.0A inserted

After Chapter 5, Part A, heading

insert

5.0 Principles

Note

This rule has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

This Part A is based on the following principles relating to *connection* to the *national grid*:

(a) all *Registered Participants* should have the opportunity to form a *connection* to a *network* and have access to the *network services* provided by the *networks* forming part of the *national grid*;

(b) the terms and conditions on which *connection* to a *network* and provision of *network service* is to be granted are to be set out in commercial agreements on reasonable terms entered into between a *Network Service Provider* and other *Registered Participants*.

5.0A Obligations of Network Service Providers and Connection Applicants

Note

This rule has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

(a) A *Connection Applicant* may submit an *application to connect* to the relevant *Network Service Provider*.

(b) A *Network Service Provider* must review and process *applications to connect* that are submitted to it and must enter into a *connection agreement* with each *Registered Participant* and any other person to which it has provided a *connection* in accordance with this Part to the extent that the *connection point* relates to its part of the *national grid*.

(c) Upon the submission of an *application to connect*, and so long as the *Connection Applicant* wishes to pursue the application, both the *Network Service Provider* and the *Connection Applicant* must use reasonable endeavours to:

(1) negotiate with each other in respect of the provision of *connection* and any other matters relevant to the provision of *connection*;

(2) negotiate in good faith with any other person with which the *Connection Applicant* must negotiate in respect of the *connection*; and

(3) enter into a *connection agreement*.

(d) The terms and conditions of a *connection agreement* must be reasonable.

7 Rules 5.1 to 5.9 modified

After rules 5.1, 5.2, 5.3, 5.3A, 5.4, 5.4A, 5.4AA, 5.5, 5.7, 5.8 and 5.9, headings

insert

Note

This rule has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of this rule will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

8 Clause 5.10.1 modified

After clause 5.10.1, heading

insert

Note

Clause 5.10.1 has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of clause 5.10.1 will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

9 Clause 5.10.2 modified

(1) After clause 5.10.2, heading

insert

Note

Clause 5.10.2 has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

(2) Clause 5.10.2, definition **design fault level**

omit

performance standard

insert

relevant standard

(3) Clause 5.10.2, definition **replacement transmission network asset**

omit

$5 *(all references)*

insert

$2.5

(4) Clause 5.10.2, definition **replacement transmission network asset**

omit

(as varied in accordance with a cost threshold determination)

10 Clause 5.10.3 modified

After clause 5.10.3, heading

insert

Note

Clause 5.10.3 has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of clause 5.10.3 will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

11 Rule 5.11 modified

After rule 5.11, heading

insert

Note

Rule 5.11 has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

12 Clause 5.11.1 modified

(1) Clause 5.11.1(a)

omit

, *market network service*

(2) Clause 5.11.1(b)

omit

, *market network services*

(3) Clause 5.11.1(c)

omit

or *market network services*

(4) Clause 5.11.1(d)

omit

and *AEMO*

13 Clause 5.11.2 modified

(1) Clause 5.11.2(b) and (c)

omit

and *AEMO*

(2) Clause 5.11.2(c)(1)

omit

dual function assets or

14 Rule 5.12 modified

After rule 5.12, heading

insert

Note

Rule 5.12 has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

15 Clause 5.12.1 modified

(1) After clause 5.12.1, heading

insert

Note

Clause 5.12.1(b)(3) has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of clause 5.12.1(b)(3) will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

(2) Clause 5.12.1(a)

omit

market network service,

(3) Clause 5.12.1(b)(4)

omit

in the *market*

insert

via a *transmission or distribution system* in this jurisdiction

16 Clause 5.12.2 modified

(1) After clause 5.12.2, heading

insert

Note

Clause 5.12.2(c)(1), (5)(v), (6) and (8) has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of clause 5.12.2(c)(1), (5)(v), (6) and (8) will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

(2) Clause 5.12.2(a)

omit

Subject to paragraph (b), by 30 June

insert

By 31 December

(3) Clause 5.12.2(b)

omit, insert

(b) A *Network Service Provider* may *publish* its *Transmission Annual Planning Report* in the same document as its *Distribution Annual Planning Report*.

(4) Clause 5.12.2(c)(5)(vi) and (7)(iv)

omit

interconnectors, *generation* options, demand side options*, market network service* options

insert

generation options, demand side options

17 Rule 5.13 modified

After rule 5.13, heading

insert

Note

This rule has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

18 Clause 5.13.1 modified

(1) Clause 5.13.1(d)(2)(iii)

omit

power system security or

(2) Clause 5.13.1(d)(3)(i)

omit, insert

(i) carry out the requirements of any relevant regulatory investment test; and

(3) Clause 5.13.1(g)

omit

2013

insert

2020

19 Clause 5.13.2 modified

Clause 5.13.2(b), note

omit, insert

Note

Under clause 5.12.2(b), a *Network Service Provider* may *publish* its *Transmission Annual Planning Report* in the same document as its *Distribution Annual Planning Report* under this clause 5.13.2.

20 Rule 5.13A modified

(1) After rule 5.13A, heading

insert

Note

Rule 5.13A has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

(2) Rule 5.13A(a), definition **ten year zone substation report**

omit

the commencement of this rule 5.13A

insert

1 July 2019

21 Rules 5.14 to 5.22 modified

After rules 5.14, 5.15, 5.16, 5.17, 5.18, 5.18A, 5.19, 5.20, 5.21 and 5.22, headings

insert

Note

This rule has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of this rule will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

22 Schedules 5.1a to 5.6 modified

After schedules 5.1a, 5.1, 5.2, 5.3, 5.3a, 5.4, 5.4A, 5.4B, 5.5 and 5.6, headings

insert

Note

This schedule has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of this schedule will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

23 Schedule 5.7 modified

After schedule 5.7, heading

insert

Note

This schedule has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

24 Schedule 5.8 modified

(1) Schedule 5.8, note, at the end

insert

Paragraphs (b)(5)(iii), (h) and (i) of this schedule have no effect in this jurisdiction, and the remainder of this schedule has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of paragraphs (b)(5)(iii), (h) and (i) of this schedule will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

(2) Schedule 5.8(f)

omit

regulatory investment test for distribution

insert

relevant regulatory investment test

(3) Schedule 5.8(g)

omit

$2 million or more (as varied by a cost threshold determination)

insert

$1 million or more

25 Schedule 5.9 modified

Schedule 5.9, note, at the end

insert

Paragraph (h) of this schedule has no effect in this jurisdiction, and the remainder of this schedule has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of paragraph (h) of this schedule will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

26 Clause 5A.A.0 inserted

After Chapter 5A, Part A, heading

insert

5A.A.0 Interpretation

(a) This clause applies in relation to the following:

(1) the provisions of this Chapter;

(2) the provisions of Chapters 11 and 11A, to the extent the provisions operate in relation to this Chapter;

(3) an instrument made under or for the purposes of this Chapter; and

(4) the definitions in Chapter 10, to the extent the definitions are mentioned in a provision or instrument mentioned in subparagraph (1), (2) or (3).

(b) Unless the context or subject matter otherwise indicates or requires, in a provision or instrument mentioned in paragraph (a):

(1) a reference to a "*distribution network*" must be regarded as including a reference to a "*transmission network*";

(2) a reference to a "*distribution system*" must be regarded as including a reference to a "*transmission system*";

(3) a reference to a "*Distribution Network User*" must be regarded as including a reference to a "*Transmission Network User*";

(4) a reference to a "*Distribution Network Service Provider*" must be regarded as including a reference to a "*Transmission Network Service Provider*";

(5) a reference to a "*distribution service*" must be regarded as including a reference to a "*transmission service*"; and

(6) a reference to an "*embedded generating unit*" must be regarded as a reference to a "*generating unit*".

Note

The object of this clause is to ensure the local electricity systems in this jurisdiction are treated as "*distribution systems*" for the purposes of the operation of this Chapter 5A.

27 Clause 5A.A.2 modified

(1) After clause 5A.A.2, heading

insert

Note

Clause 5A.A.2 has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

(2) Clause 5A.A.2(a)

omit

an *Intending Participant* unless the *Registered Participant* or *Intending Participant*

insert

a person intending to become a *Registered Participant* unless the *Registered Participant* or person intending to become a *Registered Participant*

(3) Clause 5A.A.2(c)

omit

rule 5.3A

insert

Chapter 5, Part A

(4) Clause 5A.A.2(d)(3)

omit

enquiry under clause 5.3A.5

insert

enquiry under Chapter 5, Part A

28 Clause 5A.A.3 modified

After clause 5A.A.3, heading

insert

Note

Clause 5A.A.3 has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of clause 5A.A.3 will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

29 Chapter 5A, Part B modified

After Chapter 5A, Part B, heading

insert

Note

Part B of this Chapter has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

30 Clause 5A.B.3 modified

After clause 5A.B.3(b)

insert

(ba) For the purposes of paragraph (b)(1), the *AER* must regard the reference to "the national electricity system" in the national electricity objective stated in section 7 of the Law as including a reference to one or more, or all, of the local electricity systems, as the case requires.

31 Clause 5A.B.5 modified

After clause 5A.B.5(b)

insert

(ba) For the purposes of paragraph (b), the *AER* must regard the reference to "the national electricity system" in the national electricity objective stated in section 7 of the Law as including a reference to one or more, or all, of the local electricity systems, as the case requires.

32 Chapter 5A, Part C modified

After Chapter 5A, Part C, heading

insert

Note

Part C of this Chapter has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

33 Clause 5A.C.1 modified

After clause 5A.C.1, heading

insert

Note

Clause 5A.C.1(c) and (d) has no effect in this jurisdiction until the *National Energy Retail Law* is applied as a law of this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

34 Chapter 5A, Part D modified

After Chapter 5A, Part D, heading

insert

Note

Part D of this Chapter has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

35 Clause 5A.D.1 modified

After clause 5A.D.1, heading

insert

Note

Clause 5A.D.1(a)(7) and (b) has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of clause 5A.D.1(a)(7) and (b) will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

36 Clause 5A.D.1A modified

After clause 5A.D.1A, heading

insert

Note

Clause 5A.D.1A has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of clause 5A.D.1A will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

37 Clause 5A.E.2 modified

After clause 5A.E.2, heading

insert

Note

Clause 5A.E.2 has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

38 Clause 5A.E.3 modified

After clause 5A.E.3(g)

insert

(ga) For the application of these *Rules* in this jurisdiction:

(1) the *connection charge guidelines* that are in force in the other *participating jurisdictions* on 1 July 2017 are taken:

(i) to be the *connection charge guidelines* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been developed and *published* by the *AER* on 1 July 2017; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (e), (f) and (g) in developing and *publishing* the *connection charge guidelines*.

39 Clause 5A.E.4 modified

After clause 5A.E.4, heading

insert

Note

The note to clause 5A.E.4(c) has no effect in this jurisdiction until the *National Energy Retail Law* is applied as a law of this jurisdiction. The remaining provisions of clause 5A.E.4 have no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

40 Chapter 5A, Part F modified

After Chapter 5A, Part F, heading

insert

Note

Part F of this Chapter has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

41 Clause 5A.F.5 modified

After clause 5A.F.5, heading

insert

Note

Clause 5A.F.5(b)(2) has no effect in this jurisdiction until the *National Energy Retail Law* is applied as a law of this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

42 Chapter 5A, Part G modified

After Chapter 5A, Part G, heading

insert

Note

Part G of this Chapter has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of Part G will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

43 Schedule 5A.1 modified

After schedule 5A.1, heading

insert

Note

Schedule 5A.1 has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

44 Rules 6.0 and 6.0A inserted

After Chapter 6, Part A, heading

insert

6.0 Operation of Chapter 6 in this jurisdiction

(a) This rule applies if a *Distribution Network Service Provider* owns, controls or operates more than one *distribution system* in this jurisdiction.

(b) Despite any other provision of this Chapter:

(1) for all of those *distribution systems* there must be, in respect of a particular *regulatory control period*, only one:

(i) draft distribution determination and final distribution determination;

(ii) *framework and approach paper*;

(iii) *building block proposal* and *building block determination*;

(iv) *regulatory proposal*;

(v) proposed and final *tariff structure statement*; and

(vi) regulatory asset base value; and

(2) all of those *distribution systems* must be treated as a single *distribution system* for the purposes of clause 6.5.1 and schedule 6.2.

6.0A Interpretation

(a) This rule applies in relation to the following:

(1) the provisions of this Chapter;

(2) the provisions of Chapters 11 and 11A, to the extent the provisions operate in relation to this Chapter;

(3) an instrument made under or for the purposes of this Chapter; and

(4) the definitions in Chapter 10, to the extent the definitions are mentioned in a provision or instrument mentioned in subparagraph (1), (2) or (3).

(b) Unless the context or subject matter otherwise indicates or requires, in a provision or instrument mentioned in paragraph (a):

(1) a reference to a "*distribution network*" must be regarded as including a reference to a "*transmission network*";

(2) a reference to a "*distribution system*" must be regarded as including a reference to a "*transmission system*";

(3) a reference to a "*Distribution Network User*" must be regarded as including a reference to a "*Transmission Network User*";

(4) a reference to a "*Distribution Network Service Provider*" must be regarded as including a reference to a "*Transmission Network Service Provider*";

(5) a reference to a "*distribution service*" must be regarded as including a reference to a "*transmission service*"; and

(6) a reference to an "*embedded generating unit*" must be regarded as a reference to a "*generating unit*".

Note:

The object of this rule is to ensure the local electricity systems in this jurisdiction are treated as "*distribution systems*" for the purposes of the operation of this Chapter.

45 Clause 6.1.3 modified

Clause 6.1.3(a)(2)

omit

7

insert

7A

46 Clause 6.2.5 modified

(1) Clause 6.2.5(c)(3)

omit, insert

(2A) for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply during the *1st regulatory control period* – the regulatory arrangements in the *2014 NT Network Price Determination*; and

(3) for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply after the *1st regulatory control period* – the regulatory arrangements (if any) applicable to the relevant service immediately before the commencement of the distribution determination; and

(2) Clause 6.2.5(c), at the end

insert

Note:

The modifications to this paragraph expire on 1 July 2024.

(3) Clause 6.2.5(d)(3)

omit, insert

(2A) for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply during the *1st regulatory control period* – the regulatory arrangements in the *2014 NT Network Price Determination*); and

(3) for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply after the *1st regulatory control period* – the regulatory arrangements (if any) applicable to the relevant service immediately before the commencement of the distribution determination; and

(4) Clause 6.2.5(d), at the end

insert

Note:

The modifications to this paragraph expire on 1 July 2024.

47 Clause 6.4.1 modified

After clause 6.4.1(c)

insert

(ca) For the application of these *Rules* in this jurisdiction:

(1) the *post-tax revenue model* that is in force in the other *participating jurisdictions* on 1 July 2016 is taken:

(i) to be the *post-tax revenue model* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been prepared and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (a) and (c) in preparing and *publishing* the *post-tax revenue model*.

48 Clause 6.4.3 modified

(1) Clause 6.4.3(a)(6)

omit, insert

(5A) for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply during the *1st regulatory control period* – the other revenue increments or decrements (if any) for that year arising from the application during the *2014-19 NT regulatory control period* of the control mechanism in the *2014 NT Network Price Determination*, as modified by the *2014 NT Ministerial Direction* – see paragraph (b)(5A); and

(6) for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply after the *1st regulatory control period* – the other revenue increments or decrements (if any) for that year arising from the application of a control mechanism in the previous *regulatory control period* – see paragraph (b)(6);

(2) Clause 6.4.3(a), at the end

insert

Note:

The modifications to this paragraph expire on 1 July 2024.

(3) After clause 6.4.3(b)(5)

insert

(5A) the other revenue increments or decrements referred to in paragraph (a)(5A) are those that are to be carried forward to the *1st regulatory control period* as a result of the application during the *2014-19 NT regulatory control period* of the control mechanism in the *2014 NT Network Price Determination*, as modified by the *2014 NT Ministerial Direction* and are apportioned to the relevant year under the distribution determination for the *1st regulatory control period*;

Note:

This subparagraph expires on 1 July 2024.

49 Clause 6.4.4 modified

After clause 6.4.4(e)

insert

(ea) For the application of these *Rules* in this jurisdiction:

(1) the *Shared Asset Guidelines* that are in force in the other *participating jurisdictions* on 1 July 2016 are taken:

(i) to be the *Shared Asset Guidelines* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been made and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraph (d) in making and publishing the *Shared Asset Guidelines*.

50 Clause 6.4.5 modified

After clause 6.4.5(b)

insert

(ba) For the application of these *Rules* in this jurisdiction:

(1) the *Expenditure Forecast Assessment Guidelines* that are in force in the other *participating jurisdictions* on 1 July 2016 are taken:

(i) to be the *Expenditure Forecast Assessment Guidelines* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been developed and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraph (a) in developing and *publishing* the *Expenditure Forecast Assessment Guidelines*.

51 Rule 6.4A modified

After rule 6.4A(c)

insert

(ca) For the application of these *Rules* in this jurisdiction:

(1) the *Capital Expenditure Incentive Guidelines* that are in force in the other *participating jurisdictions* on 1 July 2016 are taken:

(i) to be the *Capital Expenditure Incentive Guidelines* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been made and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraph (b) in making and *publishing* the *Capital Expenditure Incentive Guidelines*.

52 Clause 6.5.1 modified

After clause 6.5.1(d)

insert

(da) For the application of these *Rules* in this jurisdiction:

(1) the *roll forward model* that is in force in the other *participating jurisdictions* on 1 July 2016 is taken:

(i) to be the *roll forward model* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been developed and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (b), (d) and (e) in developing and *publishing* the *roll forward model*.

53 Clause 6.5.2 modified

After clause 6.5.2(q)

insert

(qa) For the application of these *Rules* in this jurisdiction:

(1) the *Rate of Return Guidelines* that are in force in the other *participating jurisdictions* on 1 July 2016 are taken:

(i) to be the *Rate of Return Guidelines* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been made and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (m) and (n) in making and *publishing* the *Rate of Return Guidelines*; and

(3) despite paragraph (p)(1), the *AER* need only review the *Rate of Return Guidelines* when it is required to review the Guidelines in the other *participating jurisdictions*.

54 Clause 6.5.8 modified

After clause 6.5.8(d)

insert

(da) For the application of these *Rules* in this jurisdiction:

(1) the *efficiency benefit sharing scheme* that is in force in the other *participating jurisdictions* on 1 July 2016 is taken:

(i) to be the *efficiency benefit sharing scheme* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been developed and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (a) and (c) in developing and *publishing* the *efficiency benefit sharing scheme*.

55 Clause 6.5.8A modified

After clause 6.5.8A(e)

insert

(ea) For the application of these *Rules* in this jurisdiction:

(1) the *capital expenditure sharing scheme* that is in force in the other *participating jurisdictions* on 1 July 2016 is taken:

(i) to be the *capital expenditure sharing scheme* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been developed by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (b), (c) and (d) in developing the *capital expenditure sharing scheme*.

56 Clause 6.6.1 modified

After clause 6.6.1, heading

insert

Note:

Clause 6.6.1(a1)(4), (c)(6)(iii), (l) and (m) have no effect in this jurisdiction until the *National Energy Retail Law* is applied as a law of this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

57 Clause 6.6.1 modified (expires when NERL applied)

Before clause 6.6.1(a1)(1)

insert

(1AA) a local event prescribed by the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*;

Notes:

1 See Part 3 of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations* for modifications to the operation of this clause 6.6.1 in relation to a local event.

2 Subparagraph (1AA) expires when the *National Energy Retail Law* is applied as a law of this jurisdiction.

58 Clause 6.6.1 modified (expires on 1 July 2024)

(1) Before clause 6.6.1(a1)(1)

insert

(1AB) a NT transitional regulatory change event prescribed by the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*;

Note:

1 See Part 3 of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations* for modifications to the operation of this clause 6.6.1 in relation to a NT transitional regulatory change event.

2 Subparagraph (1AB) expires on 1 July 2024.

(2) Clause 6.6.1(j)(7A), after "6.6.1"

insert

or clause 6.6.1AB

(3) After clause 6.6.1(j)(7A)

insert

Note:

The modification to subparagraph (7A) expires on 1 July 2024.

59 Clauses 6.6.1AA and 6.6.1AB inserted

After clause 6.6.1

insert

6.6.1AA Cost pass through – deemed determinations

(a) On and from 1 July 2019, an amount that:

(1) under clause 3.1.3(a)(ii) of Part B of the *2014 NT Network Price Determination*, the *AER* had determined, on or after 1 July 2018, should be passed through to network users in a *regulatory year* of the *1st regulatory control period* or a subsequent *regulatory control period*; or

(2) under clause 3.1.3(d)(ii) of Part B of the *2014 NT Network Price Determination*, should be passed through to network users in a *regulatory year* of the *1st regulatory control period* or a subsequent *regulatory control period* as a result of the

AER, on or after 1 July 2018, failing to make a determination within the prescribed period,

is taken to be an amount determined under clause 6.6.1(d)(2).

(b) On and from 1 July 2019, an amount that, under clause 3.1.5(a)(ii)(B) of Part B of the *2014 NT Network Price Determination*, the *AER* had determined, on or after 1 July 2018, should be passed through to network users in a *regulatory year* of the *1st regulatory control period* or a subsequent *regulatory control period* is taken to be an amount determined under clause 6.6.1(g)(2)(ii).

Note:

This clause expires on 1 July 2024.

6.6.1AB Cost pass through – NT events

(a) A *Distribution Network Service Provider* may seek the approval of the *AER* to pass through to *Distribution Network Users* a *positive pass through amount* in relation to an *NT positive change event*.

Note:

See Part 3 of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations* for modifications to the operation of this clause 6.6.1AB in relation to certain *NT positive change events*.

(b) The *AER* may require a *Distribution Network Service Provider* to pass through to *Distribution Network Users* a *negative pass through amount* in relation to an *NT negative change event* as determined by the *AER* under paragraph (g).

Positive pass through

(c) To seek the approval of the *AER* to pass through a *positive pass through amount* in relation to an *NT positive change event*, a *Distribution Network Service Provider* must submit to the *AER*, within 90 *business days* after the commencement of the *1st regulatory control period*, a written statement that specifies:

(1) the details of the *NT positive change event*;

(2) the date on which the *NT positive change event* occurred;

(3) the *eligible pass through amount* in respect of that *NT positive change event*;

(4) the *positive pass through amount* the *Distribution Network Service Provider* proposes in relation to the *NT positive change event*;

(5) the amount of the *positive pass through amount* that the *Distribution Network Service Provider* proposes should be passed through to *Distribution Network Users* in each *regulatory year* after the *NT positive change event* occurred;

(6) evidence:

(i) of the actual and likely increase in costs referred to in subparagraph (3); and

(ii) that such costs occur solely as a consequence of the *NT positive change event*; and

(7) such other information as may be required under any relevant *regulatory information instrument*.

(d) If the *AER* determines that an *NT positive change event* has occurred in respect of a statement under paragraph (c), the *AER* must determine:

(1) the *approved pass through amount*; and

(2) the amount of that *approved pass through amount* that should be passed through to *Distribution Network Users* in each *regulatory year* after the *NT positive change event* occurred,

taking into account the matters referred to in paragraph (j).

(e) Subject to paragraph (k1), if the *AER* does not make the determinations referred to in paragraph (d) within 40 *business days* from the later of the date it receives the *Distribution Network Service Provider's* statement and accompanying evidence under paragraph (c), and the date it receives any additional information required under paragraph (e1), then, on the expiry of that period, the *AER* is taken to have determined that:

(1) the *positive pass through amount* as proposed in the *Distribution Network Service Provider's* statement under paragraph (c) is the *approved pass through amount* in respect of that *NT positive change event*; and

(2) the amount of that *positive pass through amount* that the *Distribution Network Service Provider* proposes in its statement under paragraph (c) should be passed through to *Distribution Network Users* in each *regulatory year* after the *NT positive change event* occurred, is the amount that should be so passed through in each such *regulatory year*.

(e1) A *Distribution Network Service Provider* must provide the *AER* with such additional information as the *AER* requires for the purpose

of making a determination under paragraph (d) within the time specified by the *AER* in a notice provided to the *Distribution Network Service Provider* by the *AER* for that purpose.

Negative pass through

(f) A *Distribution Network Service Provider* must submit to the *AER*, within 90 *business days* after the later of the commencement of the *1st regulatory control period* and the date on which the provider becomes aware of the occurrence of an *NT negative change event* for the provider, a written statement that specifies:

(1) the details of the *NT negative change event*;

(2) the date on which the *NT negative change event* occurred;

(3) the costs in the provision of *direct control services* and *NT equivalent services* that the *Distribution Network Service Provider* has saved and is likely to save as a result of the *negative change event* until the end of the *1st regulatory control period*;

(4) the aggregate amount of those saved costs that the *Distribution Network Service Provider* proposes should be passed through to *Distribution Network Users*;

(5) the amount of the costs referred to in subparagraph (4) the *Distribution Network Service Provider* proposes should be passed through to *Distribution Network Users* in each *regulatory year* after the *NT negative change event* occurred; and

(6) such other information as may be required under any relevant *regulatory information instrument*.

(f1) If the occurrence of the *NT negative change event* is not notified by the *Distribution Network Service Provider* to the *AER* under paragraph (f) then, as soon as is reasonably practicable and before making a determination referred to in paragraph (g), the *AER* must notify the *Distribution Network Service Provider* of the occurrence of that *NT negative change event*.

(g) If an *NT negative change event* occurs (whether or not the occurrence of that *NT negative change event* is notified by the *Distribution Network Service Provider* to the *AER* under paragraph (f)) and the *AER* determines to impose a requirement on the provider in relation to that *NT negative change event* as described in paragraph (b), the *AER* must determine:

(1) the *required pass through amount*; and

(2) taking into account the matters referred to in paragraph (j):

(i) how much of that *required pass through amount* should be passed through to *Distribution Network Users* (the "*negative pass through amount*"); and

(ii) the amount of that *negative pass through amount* that should be passed through to *Distribution Network Users* in each *regulatory year* after the *NT negative change event* occurred.

(g1) Subject to paragraph (k1), if the *AER* does not make the determinations referred to in paragraph (g) within 40 *business days* from:

(1) where the *Distribution Network Service Provider* notifies the *AER* of the occurrence of the *NT negative change event* under paragraph (f) – the later of the date the *AER* receives the *Distribution Network Service Provider's* statement under paragraph (f) and the date the *AER* receives any information required by the *AER* under paragraph (h); or

(2) where the *Distribution Network Service Provider* does not notify the *AER* of the occurrence of the *NT negative change event* under paragraph (f) – the later of the date the *AER* notifies the *Distribution Network Service Provider* under paragraph (f1) and the date the *AER* receives any information required by the *AER* under paragraph (h),

then the *AER* is taken to have determined that the *required pass through amount* is zero.

(h) A *Distribution Network Service Provider* must provide the *AER* with such information as the *AER* requires for the purpose of making a determination under paragraph (g) within the time specified by the *AER* in a notice provided to the *Distribution Network Service Provider* by the *AER* for that purpose.

Consultation

(i) Before making a determination under paragraph (d) or (g), the *AER* may consult with the relevant *Distribution Network Service Provider* and such other persons as the *AER* considers appropriate, on any matters arising out of the relevant *NT positive change event* or *NT negative change event* the *AER* considers appropriate.

Relevant factors

(j) In making a determination under paragraph (d) or (g) in respect of a *Distribution Network Service Provider*, the *AER* must take into account:

(1) the matters and proposals set out in any statement given to the *AER* by the *Distribution Network Service Provider* under paragraph (c) or (f);

(2) in the case of an *NT positive change event*, the increase in costs in the provision of *direct control services* or *NT equivalent services* that, as a result of the *NT positive change event*, the *Distribution Network Service Provider* has incurred and is likely to incur until the end of the *1st regulatory control period*;

(2A) in the case of a *NT negative change event*, the costs in the provision of *direct control services* or *NT equivalent services* that, as a result of the *NT negative change event*, the *Distribution Network Service Provider* has saved and is likely to save until the end of the *1st regulatory control period*;

(3) in the case of an *NT positive change event*, the efficiency of the *Distribution Network Service Provider's* decisions and actions in relation to the risk of the *NT positive change event*, including whether the *Distribution Network Service Provider* has failed to take any action that could reasonably be taken to reduce the magnitude of the *eligible pass through amount* in respect of that *NT positive change event* and whether the *Distribution Network Service Provider* has taken or omitted to take any action where such action or omission has increased the magnitude of the amount in respect of that *NT positive change event*;

(4) the time cost of money based on the *allowed rate of return* for the *Distribution Network Service Provider* for the *1st regulatory control period*;

(5) the need to ensure that the *Distribution Network Service Provider* only recovers any actual or likely increment in costs under this paragraph (j) to the extent that such increment is solely as a consequence of an *NT positive change event* or *NT negative change event*;

(6) in the case of a tax change event (as defined in Part B of the *2014 NT Network Price Determination*), any change in the way another *tax* is calculated, or the removal or imposition of another *tax*, which, in the *AER's* opinion, is complementary to the tax change event concerned;

(7) whether the costs of the *NT positive change event* or *NT negative change event* have already been factored into the calculation of the *Distribution Network Service Provider's annual revenue requirement* for the *1st regulatory control period* or will be factored into the calculation of the *Distribution Network Service Provider's annual revenue requirement* for a subsequent *regulatory control period*;

(7A) the extent to which the costs that the *Distribution Network Service Provider* has incurred and is likely to incur are the subject of a previous determination made by the *AER* under this clause or clause 6.6.1; and

(8) any other factors that the *AER* considers relevant.

Extension of time limits

(k) The *AER* must, by written notice to a *Distribution Network Service Provider*, extend a time limit fixed in paragraph (c) or (f) if the *AER* is satisfied that the difficulty of assessing or quantifying the effect of the relevant *NT positive change event* or *NT negative change event* justifies the extension.

(k1) If the *AER* is satisfied that the making of a determination under paragraph (d) or (g) involves issues of such complexity or difficulty that the time limit fixed in paragraph (e) or (g1) should be extended, the *AER* may extend that time limit by a further period of up to 60 *business days*, provided that it gives written notice to the *Distribution Network Service Provider* of that extension not later than 10 *business days* before the expiry of that time limit.

(k2) If the *AER* extends a time limit under paragraph (k1), it must make available on its website a notice of that extension as soon as is reasonably practicable.

(k3) Subject to paragraph (k6), if the *AER* gives a written notice to the *Distribution Network Service Provider* stating that it requires information from an *Authority* in order to make a determination under paragraph (d) or (g) then, for the purpose of calculating elapsed time, the period between when the *AER* gives that notice to the *Distribution Network Service Provider* and when the *AER* receives that information from that *Authority* is to be disregarded.

(k4) Subject to paragraph (k6), if the *AER* gives a written notice to the *Distribution Network Service Provider* stating that, in order to make a determination under paragraph (d) or (g), it requires information that it anticipates will be made publicly available by a judicial body or royal commission then, for the purpose of calculating elapsed time, the period between when the *AER* gives that notice to the

Distribution Network Service Provider and when that information is made publicly available is to be disregarded.

(k5) Where the *AER* gives a notice to the *Distribution Network Service Provider* under paragraph (k3) or (k4), it must:

(1) as soon as is reasonably practicable make available on its website a notice stating when the period referred to in paragraph (k3) or (k4), as the case may be, has commenced;

(2) as soon as is reasonably practicable make available on its website a notice stating when the period referred to in paragraph (k3) or (k4), as the case may be, has ended; and

(3) if the information specified in that notice is required from an *Authority*, promptly request that information from the relevant *Authority*.

(k6) Paragraphs (k3) and (k4) do not apply if the *AER* gives the notice specified in those paragraphs to the *Distribution Network Service Provider* later than 10 *business days* before the expiry of the time limit fixed in paragraphs (e) or (g1).

Note:

This clause expires on 1 July 2024.

60 Clause 6.6.2 modified

After clause 6.6.2(c)

insert

(ca) For the application of these *Rules* in this jurisdiction:

(1) the *service target performance incentive scheme* that is in force in the other *participating jurisdictions* on 1 July 2016 is taken:

(i) to be the *service target performance incentive scheme* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been developed and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (a) and (b) in developing and *publishing* the *service target performance incentive scheme*.

61 Clause 6.6.3 modified

Clause 6.6.3(c)(3)

omit

in the *market*

insert

via a *transmission or distribution system* in this jurisdiction

62 Clause 6.6.4 modified

After clause 6.6.4(a)

insert

(ab) For the purposes of paragraph (a), the *AER* must regard the reference to "the national electricity system" in the national electricity objective stated in section 7 of the Law as including a reference to one or more, or all, of the local electricity systems, as the case requires.

63 Clause 6.6A.1 modified

Clause 6.6A.1(b)(2)(iii)

omit

$30

insert

$15

64 Clause 6.8.1 modified

After clause 6.8.1(e)

insert

(ea) Despite paragraph (e), for a *Distribution Network Service Provider* in this jurisdiction, the *AER* must:

(1) after consulting with the *Distribution Network Service Provider* and other persons as the *AER* considers appropriate, make a *framework and approach paper* by 1 August 2017; and

(2) give a copy of the paper to the *Distribution Network Service Provider*, and *publish* it, as soon as is reasonably practicable.

Note:

This paragraph expires on 1 July 2019.

65 Clause 6.8.1A modified

After clause 6.8.1A(b)

insert

(ba) Despite paragraph (b), for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply during the *1st regulatory control period*, the provider must submit the information referred to in paragraph (a) on or before 1 July 2017.

Note:

This paragraph expires on 1 July 2019.

66 Clause 6.10.1 modified

After clause 6.10.1(b)

insert

(ba) In addition, if the draft distribution determination will apply to a *distribution system* in this jurisdiction during the *1st regulatory control period*, the *AER* must have regard to:

(1) any amount that, under clause 3.1.3(a)(ii) or 3.1.5(a)(ii)(B) of Part B of the *2014 NT Network Price Determination*, the *AER* determined, before 1 July 2018, should be passed through to network users in a *regulatory year* of the *1st regulatory control period* or a subsequent *regulatory control period*; and

(2) any amount that, under clause 3.1.3(d)(ii) of Part B of the *2014 NT Network Price Determination*, should be passed through to network users in a *regulatory year* of the *1st regulatory control period* or a subsequent *regulatory control period* as a result of the *AER* failing, before 1 July 2018, to make a determination within the prescribed period.

Note:

This paragraph expires on 1 July 2024.

67 Clause 6.11.1 modified

After clause 6.11.1(b)

insert

(ba) In addition, if the distribution determination will apply to a *distribution system* in this jurisdiction during the *1st regulatory control period*, the *AER* must have regard to:

(1) any amount that, under clause 3.1.3(a)(ii) or 3.1.5(a)(ii)(B) of Part B of the *2014 NT Network Price Determination*, the *AER* determined, before 1 July 2018, should be passed through to network users in a *regulatory year* of the *1st regulatory control period* or a subsequent *regulatory control period*; and

(2) any amount that, under clause 3.1.3(d)(ii) of Part B of the *2014 NT Network Price Determination*, should be passed through to network users in a *regulatory year* of the *1st regulatory control period* or a subsequent *regulatory control period* as a result of the *AER* failing, before 1 July 2018, to make a determination within the prescribed period.

Note:

This paragraph expires on 1 July 2024.

68 Rule 6.14A modified

After rule 6.14A(d)

insert

(da) For the application of these *Rules* in this jurisdiction:

(1) the *Distribution Confidentiality Guidelines* that are in force in the other *participating jurisdictions* on 1 July 2016 are taken:

(i) to be the *Distribution Confidentiality Guidelines* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been made and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (a) and (b) in making and *publishing* the *Distribution Confidentiality Guidelines*.

69 Clause 6.15.3 modified

After clause 6.15.3(e)

insert

(ea) For the application of these *Rules* in this jurisdiction:

(1) the *Cost Allocation Guidelines* that are in force in the other *participating jurisdictions* on 1 July 2016 are taken:

(i) to be the *Cost Allocation Guidelines* in force in this jurisdiction (subject to any amendment or replacement under these *Rules*); and

(ii) to have been made and *published* by the *AER* on 1 July 2016; and

(2) the *AER* is taken to have complied with the requirements of paragraphs (a), (b) and (e) in making and *publishing* the *Cost Allocation Guidelines*.

70 Clause 6.15.4 modified

Clause 6.15.4(a)

omit, insert

(a) Each *Distribution Network Service Provider* in this jurisdiction must submit to the *AER* for its approval a document setting out its proposed *Cost Allocation Method* within 6 months of being required to do so by the *AER*.

71 Clause 6.17.1A inserted

After clause 6.17.1

insert

6.17.1A Distribution Ring-Fencing Guidelines deferred until 1 July 2019

Despite clause 6.17.1, the *Distribution Ring-Fencing Guidelines* have no effect in this jurisdiction until 1 July 2019.

72 Clause 6.17.1B inserted

Before clause 6.17.2

insert

6.17.1B Application of Distribution Ring-Fencing Guidelines in this jurisdiction

Despite clause 6.17.1, in this jurisdiction:

(a) the following provisions of the *Distribution Ring-Fencing Guidelines* have no effect:

(1) clause 1.1.1, all words from "For the avoidance" to "**DNSP**s.";

(2) clause 1.4, definition **non-distribution services**; and

(3) clauses 3.1, 4.2.1, 4.2.2 and 4.2.3; and

(b) a reference in the *Distribution Ring-Fencing Guidelines* to "**non-distribution services**" must be regarded as a reference to "**other services**"; and

(c) a reference in clause 3.2.1(a) of the *Distribution Ring-Fencing Guidelines* and the note to that paragraph to "**affiliated entities**" must be regarded as a reference to "**related electricity service providers**"; and

(d) a reference in clause 6.2.1(b)(iv) of the *Distribution Ring-Fencing Guidelines* to "**affiliated entity**" must be regarded as a reference to "**related electricity service provider**".

Note:

This clause, and the operation of the *Distribution Ring-Fencing Guidelines* in this jurisdiction, will be revisited in the event of the introduction of contestable services (including contestable *metering* services) in this jurisdiction.

73 Clause 6.18.5 modified

After clause 6.18.5(h)

insert

(ha) For a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply or applies during the *1st regulatory control period*, the reference in paragraph (h) to "the previous *regulatory year*" must be regarded as a reference to "the year that precedes the relevant *regulatory year* of the *1st regulatory control period* (which may be the last year of the *2014-19 NT regulatory control period*)".

Note:

This paragraph expires on 1 July 2024.

74 Clause 6.18.9 modified

After clause 6.18.9, heading

insert

Note:

Clause 6.18.9(a)(3) has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

75 Chapter 6, Parts J to N modified

After Chapter 6, Parts J, K, L, M and N, headings

insert

Note:

This Part has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of this Part will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

76 Rule 6.27A inserted

After rule 6.27, in Part O

insert

6.27A Application in this jurisdiction

(a) Despite rule 6.27, an *annual benchmarking report published* before 1 January 2018 must not relate to a *Distribution Network Service Provider* in this jurisdiction.

(b) For an *annual benchmarking report* that is to be *published* between 1 January 2018 and 30 June 2019, the reference in rule 6.27(a) to "*direct control services*" must, in relation to *Distribution Network Service Providers* in this jurisdiction, be regarded as a reference to "*NT equivalent services*".

Note:

This rule expires on 1 July 2019.

77 Clause S6.1.1 modified

(1) Clause S6.1.1(6) and (7)

omit, insert

(5A) in the case of a *building block proposal* for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply during the *1st regulatory control period*:

(i) capital expenditure for each of the past years of the *2009-14 NT regulatory control period* and *2014-19 NT regulatory control period*, and the expected capital expenditure for each of the last 2 years of the *2014-19 NT regulatory control period*, categorised in the same way as for the capital expenditure forecast and separately identifying for each such year:

(A) margins paid or expected to be paid by the *Distribution Network Service Provider* in circumstances where those margins are referable to arrangements that do not reflect arm's length terms; and

(B) expenditure that should have been treated as operating expenditure in accordance with the policy submitted under paragraph (8) for that year; and

(ii) an explanation of any significant variations in the forecast capital expenditure from capital expenditure in the *2009-14 NT regulatory control period* and *2014-19 NT regulatory control period*;

(5B) in the case of a *building block proposal* for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply during the *2nd regulatory control period*:

(i) capital expenditure for each of the past years of the *2014-19 NT regulatory control period* and each of the past *regulatory years* of the *1st regulatory control period*, and the expected capital expenditure for each of the last 2 *regulatory years* of the *1st regulatory control period*, categorised in the same way as for the capital expenditure forecast and separately identifying for each such year:

(A) margins paid or expected to be paid by the *Distribution Network Service Provider* in circumstances where those margins are referable to arrangements that do not reflect arm's length terms; and

(B) expenditure that should have been treated as operating expenditure in accordance with the policy submitted under paragraph (8) for that year; and

(ii) an explanation of any significant variations in the forecast capital expenditure from capital expenditure in the *2014–19 NT regulatory control period* and *1st regulatory control period*;

(6) in the case of a *building block proposal* for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply after the *2nd regulatory control period* – capital expenditure for each of the past *regulatory years* of the previous and current *regulatory control period*, and the expected capital expenditure for each of the last 2 *regulatory years* of the current *regulatory control period*, categorised in the same way as for the capital expenditure forecast and separately identifying for each such *regulatory year*:

(i) margins paid or expected to be paid by the *Distribution Network Service Provider* in circumstances where those margins are referable to arrangements that do not reflect arm's length terms; and

(ii) expenditure that should have been treated as operating expenditure in accordance with the policy submitted under paragraph (8) for that *regulatory year*;

(7) in the case of a *building block proposal* for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply after the *2nd regulatory control period* – an explanation of any significant variations in the forecast capital expenditure from historical capital expenditure; and

(2) Clause S6.1.1, at the end

insert

Note:

The modifications to this clause expire on 1 July 2029.

78 Clause S6.1.2 modified

Clause S6.1.2(7) and (8)

omit, insert

(6A) in the case of a *building block proposal* for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply during the *1st regulatory control period*:

(i) operating expenditure for each of the past years of the *2009-14 NT regulatory control period* and *2014-19 NT regulatory control period*, and the expected operating expenditure for each of the last 2 years of the *2014-19 NT regulatory control period*, categorised in the same way as for the operating expenditure forecast; and

(ii) an explanation of any significant variations in the forecast operating expenditure from operating expenditure in the *2009-14 NT regulatory control period* and *2014-19 NT regulatory control period*;

(6B) in the case of a *building block proposal* for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply during the *2nd regulatory control period*:

(i) operating expenditure for each of the past years of the *2014-19 NT regulatory control period* and each of the past *regulatory years* of the *1st regulatory control period*, and the expected operating expenditure for each of the last 2 *regulatory years* of the *1st regulatory control period*, categorised in the same way as for the operating expenditure forecast; and

(ii) an explanation of any significant variations in the forecast operating expenditure from operating expenditure in the *2014-19 NT regulatory control period* and the *1st regulatory control period*;

(7) in the case of a *building block proposal* for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply after the *2nd regulatory control period* – operating expenditure for each of the past *regulatory years* of the previous and current *regulatory control period*, and the expected operating expenditure for each of the last 2 *regulatory years* of the current *regulatory control period*, categorised in the same way as for the operating expenditure forecast;

(8) in the case of a *building block proposal* for a distribution determination for a *Distribution Network Service Provider* in this jurisdiction that will apply after the *2nd regulatory control period* – an explanation of any significant variations in the forecast operating expenditure from historical operating expenditure.

Note:

The modifications to this clause expire on 1 July 2029.

79 Clause S6.2.1 modified

(1) After clause S6.2.1, heading

insert

Note:

Clause S6.2.1(d) has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

(2) Clause S6.2.1(a), at the end

insert

However, this clause does not apply to the establishment of the value of the regulatory asset base for a *distribution system* in this jurisdiction as at the beginning of the *1st regulatory control period*.

Note:

See clause S6.2.3A for the establishment of the value of the regulatory asset base for a *distribution system* in this jurisdiction as at the beginning of the *1st regulatory control period*. Also see rule 6.0(b)(2) for the treatment of *distribution systems* in this jurisdiction for the purposes of this schedule.

(3) Clause S6.2.1(b)

omit

S6.2.2 and S6.2.3

insert

S6.2.3 and S6.2.3A

80 Clause S6.2.1 modified

After clause S6.2.1(e)(3)

insert

(3A) However, in calculating the value of the regulatory asset base for a *distribution system* in this jurisdiction as at the beginning of the first *regulatory year* of the *2nd regulatory control period*, the previous value of the regulatory asset base must be adjusted for the difference between:

(i) the estimated capital expenditure for any part of the *2014-19 NT regulatory control period* or *1st regulatory control period* where that estimated capital expenditure has been included in that value; and

(ii) the actual capital expenditure for that part of the *2014-19 NT regulatory control period* or *1st regulatory control period*.

This adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual capital expenditure.

Note:

This subparagraph expires on 1 July 2029.

81 Clause S6.2.2 modified

After clause S6.2.2, heading

insert

Note:

Clause S6.2.2 has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

82 Clause S6.2.2A modified

After clause S6.2.2A(a1)

insert

(a2) However, for a decision on the regulatory asset base for a *distribution system* in this jurisdiction as at the commencement of the *2nd regulatory control period*, "**review period**" means only the previous control period (excluding the last 2 *regulatory years* of that previous control period).

Note:

This paragraph expires on 1 July 2029.

83 Clause S6.2.2B modified

After clause S6.2.2B, heading

insert

Note:

Clause S6.2.2B(b) and (c) has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

84 Clause S6.2.3A inserted

After clause S6.2.3

insert

S6.2.3A Establishment of opening regulatory asset base for distribution system in this jurisdiction for 1st regulatory control period

(a) **Application of this clause**

This clause applies to the establishment of the value of the regulatory asset base for a *distribution system* in this jurisdiction as at the beginning of the *1st regulatory control period*.

(b) **Roll forward model to comply with this clause**

The values to be used for completing the *roll forward model* must be established in accordance with this clause.

(c) **Previous value of regulatory asset base for distribution system in this jurisdiction**

For paragraph (d), the previous value of the regulatory asset base for all *distribution systems* in this jurisdiction that are owned, controlled or operated by the *Distribution Network Service Provider* mentioned in the table below is as set out in the table:

Jurisdiction	***Distribution Network Service Provider***	Regulatory Asset Base ($m)
Northern Territory	Power and Water Corporation ABN 15 947 352 360	928.34 (as at 1 July 2014 in July 2014 dollars)

(d) **Method of adjustment of value of regulatory asset base**

The value of the regulatory asset base for the *distribution systems* mentioned in paragraph (c) as at the beginning of the first *regulatory year* of the *1st regulatory control period* must be calculated by adjusting the previous value (the **previous value**) of the regulatory asset base for the *distribution systems* as specified in paragraph (c) as follows:

(1) The previous value of the regulatory asset base must be:

(i) increased by the amount of all capital expenditure incurred during the *2014-19 NT regulatory control period* (the ***previous control period***), including any capital expenditure determined for that period under clause 3.2.4(d)(i)(A) of Part B of the *2014 NT Network Price Determination* where the Determination has been amended under clause 3.2.4(d)(iii) of the Determination (regardless of whether such capital expenditure is above or below the forecast capital expenditure for the period that is adopted for the purposes of the Determination (if any) for that period); and

(ii) reduced by the amount of any capital expenditure that has been recovered by way of a pass through under clause 3.1 of Part B of the *2014 NT Network Price Determination* where the amount of that capital expenditure would otherwise have been included in the value of the regulatory asset base.

(2) The previous value of the regulatory asset base must be increased by the amount of the estimated capital expenditure approved by the *Utilities Commission* or *AER* for any part of the previous control period for which actual capital expenditure is not available.

(3) The previous value of the regulatory asset base must be adjusted for the difference between:

(i) the estimated capital expenditure for any part of the *2009-14 NT regulatory control period* or *2014-19 NT regulatory control period* where that estimated capital expenditure has been included in that value; and

(ii) the actual capital expenditure for that part of the *2009-14 NT regulatory control period* or *2014-19 NT regulatory control period*.

This adjustment must also remove any benefit or penalty associated with any difference between the estimated and actual capital expenditure.

(4) The previous value of the regulatory asset base must only be increased by estimated or actual capital expenditure to the extent that all such capital expenditure is properly allocated to the provision of *NT equivalent services* in accordance with the Cost Allocation Methodology (as amended, varied or substituted from time to time) that is the subject of the *Utilities Commission's* final decision referred to in Chapter 5 of Part A of the *2014 NT Network Price Determination*.

(5) The previous value of the regulatory asset base must be reduced by the amount of depreciation of the regulatory asset base during the previous control period, calculated in accordance with the *2014 NT Network Price Determination*.

(6) The previous value of the regulatory asset base must be reduced by the disposal value of any asset where that asset has been disposed of during the previous control period.

(7) The previous value of the regulatory asset base must be reduced by the value of an asset where the asset was previously used to provide *NT equivalent services* but, as a result of the classification of the asset under Part B, the asset is not to be used to provide *standard control services* for the *1st regulatory control period*.

(8) The previous value of the regulatory asset base may be increased by the value of an asset to which this subparagraph applies to the extent that:

(i) the *AER* considers the asset to be reasonably required to achieve one or more of the *capital expenditure objectives*; and

(ii) the value of the asset has not been otherwise recovered.

This subparagraph applies to an asset that:

(iii) was not used to provide *NT equivalent services* in the previous control period but, as a result of a change to the classification of a particular service under Part B, is to be used to provide *standard control services* for the *1st regulatory control period*; or

(iv) was never previously used to provide *NT equivalent services* but is to be used to provide *standard control services* for the *1st regulatory control period*.

(e) An increase or reduction in the value of the regulatory asset base under paragraph (d)(7) or (8) is to be based on the portion of the value of the asset properly allocated, or formerly properly allocated, to *NT equivalent services* in accordance with the principles and policies set out in the Cost Allocation Methodology (as amended, varied or substituted from time to time) that is the subject of the *Utilities Commission's* final decision referred to in Chapter 5 of Part A of the *2014 NT Network Price Determination*. The value of the relevant asset is taken to be its value as shown in independently audited and published accounts.

85 Chapters 6A and 6B modified

After Chapters 6A and 6B, headings

insert

Note:

This Chapter has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations)*. The application of this Chapter will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

86 Chapter 7 modified

After Chapter 7, heading

insert

Note:

This Chapter has no effect in this jurisdiction but will take effect at a later date. Chapter 7A applies in this jurisdiction from 1 July 2019 in substitution for this Chapter.

Criteria for assessing when the transition to this Chapter will take effect will be considered as part of the phased implementation of the *Rules* in this jurisdiction.

87 Chapter 7A inserted

After Chapter 7

insert

Chapter 7A Metering

Note:

Chapter 7A has no effect in this jurisdiction until 1 July 2019 and applies in substitution for Chapter 7 (which establishes the metering framework that applies in the other *participating jurisdictions*). Chapter 7A operates as a transitional framework until Chapter 7 takes effect in this jurisdiction.

Criteria for assessing when the transition to Chapter 7 will take effect will be considered as part of the phased implementation of the *Rules* in this jurisdiction.

Part A Introduction

7A.1 Introduction to the Metering Chapter

7A.1.1 Purpose and application

This Chapter provides the framework for *metering* for local electricity systems by establishing the requirements for *meters* and *metering installations* at *connection points* on *transmission networks* or *distribution networks*.

7A.1.2 Contents

This Chapter sets out provisions relating to:

(a) roles and responsibilities of financially responsible participants and *Metering Coordinators*;

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

(c) the appointment of *Metering Coordinators*;

(d) *metering installation* requirements;

(e) *metering data services*;

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

(g) metrology and service level obligations for the provision of *metering* services in this jurisdiction.

7A.1.3 Definitions

In this Chapter:

actual meter reading means the collection of *energy data* from a *metering installation* by local access or *remote acquisition*.

financially responsible participant means a person who is *financially responsible* for a *connection point*.

metering provision services means the provision, installation and maintenance of *metering installations*.

NT Ombudsman means the person holding or occupying the office of Ombudsman for the Northern Territory established by section 9 of the *Ombudsman Act* (NT).

physical inventory means a physical count of devices.

scheduled meter reading means an actual meter reading performed in accordance with the usual reading cycle for the *meter*.

special meter reading means an actual meter reading performed outside of the usual reading cycle for the *meter*.

7A.1.4 Interpretation

(a) This clause applies in relation to the following:

(1) the provisions of this Chapter;

(2) the provisions of Chapters 11 and 11A to the extent the provisions operate in relation to this Chapter;

(3) the definitions in Chapter 10, to the extent the definitions are mentioned in a provision mentioned in subparagraph (1) or (2).

(b) In a provision mentioned in paragraph (a), a reference to the "relevant *Network Service Provider*" must be regarded as a reference to "Power and Water Corporation ABN 15 947 352 360".

7A.1.5 Inconsistency

(a) If there is an inconsistency between substantive Chapter 7A and the schedules to this Chapter, substantive Chapter 7A prevails to the extent of the inconsistency.

(b) In this clause:

substantive Chapter 7A means this Chapter other than the schedules to this Chapter.

Part B Roles and Responsibilities

7A.2 Role and responsibility of financially responsible participant

(a) The financially responsible participant for a *connection point* must ensure that:

(1) a *Metering Coordinator* is appointed in respect of the *connection point* in accordance with Part C of this Chapter;

(2) the *connection point* has a *metering installation* and the *metering installation* is registered in accordance with any *applicable regulatory instruments*; and

(3) a *NMI* has been obtained with respect to the *connection point*.

(b) If a *retailer* is the financially responsible participant for a *connection point*, the *retailer* must comply with paragraph (a) before providing retail services relating to the *connection point*, and for so long as the *retailer* continues to provide retail services relating to the *connection point*.

7A.3 Role and responsibility of Metering Coordinator

7A.3.1 Responsibility of the Metering Coordinator

For the term of its appointment in respect of a *connection point*, the *Metering Coordinator* is the person responsible for:

(a) the provision, installation and maintenance of a *metering installation* at the *connection point* in accordance with Part D of this Chapter;

(b) the collection of *metering data* with respect to the *metering installation*, the processing of that data, the retention of that data in the *metering data services database* and the delivery of that data to other persons in accordance with Part E of this Chapter; and

(c) managing the security of and access to:

(1) the *metering installation*;

(2) services provided by the *metering installation*;

(3) *energy data* held in the *metering installation*; and

(4) *metering data* from the *metering installation*,

in accordance with Part F of this Chapter.

7A.3.2 Role of the Metering Coordinator

Appointment of a Metering Provider

(a) The *Metering Coordinator* at a *connection point*, other than a *connection point* with a type 7 *metering installation*, must appoint a person who is accredited to provide metering provision services in this jurisdiction to be the *Metering Provider* to provide metering provision services for the *connection point*.

Appointment of a Metering Data Provider

(b) The *Metering Coordinator* at a *connection point* must appoint a person who is accredited to provide *metering data services* in this jurisdiction to be the *Metering Data Provider* to provide *metering data services* for the *connection point*.

Metering installations

(c) The *Metering Coordinator* at a *connection point*, other than a *connection point* with a type 7 *metering installation*, must ensure that:

(1) the *metering installation* is provided, installed and maintained in accordance with the *Rules*;

(2) the components, accuracy and testing of the *metering installation* comply with the requirements of the *Rules*;

(3) the security control of the *metering installation* is provided in accordance with rule 7A.9;

(4) if *remote acquisition* is used or is to be used – a *communications interface* is installed and maintained to facilitate connection to the *telecommunications network*; and

(5) the *Metering Provider* it appoints for the *connection point* complies with the obligations imposed on *Metering Providers* by this Chapter.

(d) The *Metering Coordinator* at a *connection point* with a type 4 *metering installation* must ensure that *energy data* is retrieved from the *metering installation* via remote access.

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

Metering data services

(f) The *Metering Coordinator* at a *connection point* must:

(1) ensure that the *Metering Data Provider* it appoints for the *connection point* complies with the obligations imposed on *Metering Data Providers* by this Chapter;

(2) ensure that *metering data services* are provided in accordance with the *Rules*; and

(3) arrange for the provision of relevant *metering data* to the *Metering Data Provider* if *remote acquisition*, if any, becomes unavailable.

Access to type 4 metering installations

(g) The *Metering Coordinator* at a *connection point* with a type 4 *metering installation* must:

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

(2) not arrange a *disconnection* or *reconnection* except:

(i) on the request of the financially responsible participant or relevant *Network Service Provider*;

(ii) if the *disconnection* or *reconnection* is effected via remote access; and

(iii) in accordance with *jurisdictional electricity legislation*; and

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

(i) on the request of the *retailer*; and

(ii) in accordance with *jurisdictional electricity legislation*.

7A.4 Qualification and requirements of Metering Providers and Metering Data Providers

7A.4.1 Qualification and requirements of Metering Providers

(a) This clause applies in respect of the *1st regulatory control period*.

Note:

The application of this clause in respect of subsequent *regulatory control periods* will be considered as part of the phased implementation of the *Rules* in this jurisdiction.

(b) For a *connection point* in respect of which a type 1, 2 or 3 *metering installation* is installed, or is required to be installed under this Chapter:

(1) the relevant *Network Service Provider* is taken to be accredited to provide metering provision services in this jurisdiction (including the services mentioned in the schedules in respect of which a *Metering Provider* requires accreditation); and

(2) the *Metering Coordinator* at the *connection point* is taken to have appointed the relevant *Network Service Provider* as the *Metering Provider* for the *connection point*.

(c) For a *connection point* in respect of which a type 4, 4A, 5 or 6 *metering installation* is installed, or is required to be installed under this Chapter:

(1) the relevant *Network Service Provider* is taken to be accredited to provide metering provision services in this jurisdiction (including the services mentioned in the schedules in respect of which a *Metering Provider* requires accreditation); and

(2) the *Metering Coordinator* at the *connection point* is taken to have appointed the relevant *Network Service Provider* as the *Metering Provider* for the *connection point*.

(d) A *Metering Provider* may, in providing metering provision services under this Chapter, contract with another person to assist it in the provision of those services, provided that person meets all relevant safety and technical requirements in any *applicable regulatory instruments* or other relevant law.

7A.4.2 Qualification and requirements of Metering Data Providers

(a) This clause applies in respect of the *1st regulatory control period*.

Note:

The application of this clause in respect of subsequent *regulatory control periods* will be considered as part of the phased implementation of the *Rules* in this jurisdiction.

(b) For a *connection point* in respect of which a type 1, 2 or 3 *metering installation* is installed, or is required to be installed under this Chapter:

(1) the relevant *Network Service Provider* is taken to be accredited to provide *metering data services* in this jurisdiction (including the services mentioned in the schedules in respect of which a *Metering Data Provider* requires accreditation); and

(2) the *Metering Coordinator* at the *connection point* is taken to have appointed the relevant *Network Service Provider* as the *Metering Data Provider* for the *connection point*.

(c) For a *connection point* in respect of which a type 4, 4A, 5, 6 or 7 *metering installation* is installed, or is required to be installed under this Chapter:

(1) the relevant *Network Service Provider* is taken to be accredited to provide *metering data services* in this jurisdiction (including the services mentioned in the schedules in respect of which a *Metering Data Provider* requires accreditation); and

(2) the *Metering Coordinator* at the *connection point* is taken to have appointed the relevant *Network Service Provider* as the *Metering Data Provider* for the *connection point*.

(d) A *Metering Data Provider* may, in providing *metering data services* under this Chapter, contract with another person to assist it in the provision of those services, provided that person meets all relevant safety and technical requirements in any *applicable regulatory instrument* or other relevant law.

Part C Appointment of Metering Coordinator

7A.5 Appointment of Metering Coordinator

(a) This rule applies in respect of the *1st regulatory control period*.

Note:

The application of this rule in respect of subsequent *regulatory control periods* will be considered as part of the phased implementation of the *Rules* in this jurisdiction.

(b) For a *connection point* in respect of which a type 1, 2 or 3 *metering installation* is installed, or is required to be installed under this Chapter, the financially responsible participant for the *connection point* is taken to have appointed the relevant *Network Service Provider* as the *Metering Coordinator* for the *connection point*.

(c) For a *connection point* in respect of which a type 4, 4A, 5 or 6 *metering installation* is installed, or is required to be installed under this Chapter, the financially responsible participant for the *connection point* is taken to have appointed the relevant *Network Service Provider* as the *Metering Coordinator* for the *connection point*.

(d) For a *connection point* with a type 7 *metering installation*, the financially responsible participant for the *connection point* is taken to have appointed the relevant *Network Service Provider* as the *Metering Coordinator* for the *connection point*.

Part D Metering installation

7A.6 Metering installation arrangement

7A.6.1 Metering installation requirements

(a) The *Metering Coordinator* at a *connection point* must ensure that there is a *metering installation* at that *connection point*.

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

(c) Installation and maintenance of a *metering installation* must be carried out in a safe manner, and only by a *Metering Provider* appointed under clause 7A.3.2.

7A.6.2 Metering installation components

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

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

(2) is accurate in accordance with clause 7A.6.4;

(3) in the case of a type 1, 2, 3 or 4 *metering installation* – has *electronic data transfer* facilities from the *metering installation* to the *metering data services database*;

(4) includes a *communications interface* to meet the requirements of clause 7A.3.2(c)(4);

(5) is secure in accordance with rule 7A.9;

(6) records *energy data* in a manner that enables *metering data* to be collated;

(7) is capable of separately recording *energy data* for *energy* flows in each direction where bi-directional *active energy* flows occur or could occur;

(8) has a *measurement element* for *active energy* and, if required in accordance with schedule 7A.1, a *measurement element* for *reactive energy*, with both measurements to be recorded;

(9) includes facilities for storing *interval energy data* for a period of at least 35 *days* if the *metering installation* is a type 1, 2, 3 or 4 *metering installation*;

(10) includes facilities for storing *interval energy data* for a period of at least 200 *days* or such other period as specified in schedule 7A.3 if the *metering installation* is a type 4A or 5 *metering installation*;

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

(12) is suitable for the range of operating conditions to which it will be exposed (for example temperature or impulse levels) and operates within the defined limits for its components.

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

(1) a *current transformer*;

(2) a *voltage transformer*;

(3) secure and protected wiring from the *current transformer* and the *voltage transformer* to the *meter*;

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

(5) auxiliary electricity supply to the *meter*;

(6) an alarm circuit and monitoring facility;

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

(8) test links and fusing;

(9) summation equipment; and

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

(c) The financially responsible participant for a *connection point* must:

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

(2) provide the *Metering Coordinator* at the *connection point* with the *NMI* for the *metering installation* within 5 *business days* of receiving the *NMI* from the relevant *Network Service Provider*.

(d) The relevant *Network Service Provider* must issue a unique *NMI* for each *metering installation* on its *network* to the financially responsible participant.

7A.6.3 Metering point

The *Metering Coordinator* at a *connection point* must ensure that:

(a) the *metering point* is located as close as practicable to the *connection point*, but is in a position that allows safe and unimpeded access to the *metering installation* by the *Metering Provider*, *Metering Data Provider* and any other person required or permitted to have access to the *metering installation* under the *Rules* or any other law; and

(b) any *instrument transformers* required for a *check metering installation* are located in a position that achieves a mathematical correlation with the *metering data*.

7A.6.4 Metering installation types and accuracy

(a) The type of *metering installation* and the accuracy requirements for a *metering installation* are to be determined in accordance with schedule 7A.1.

(b) A *check metering installation* is not required to have the degree of accuracy required of a *metering installation* but the *Metering Coordinator* must ensure that it has mathematical correlation with the *metering installation* and complies with the requirements of schedule 7A.1.

(c) The *Metering Coordinator* at a *connection point* must ensure that the accuracy of a type 6 *metering installation* is in accordance with regulations issued under the *National Measurement Act* or, in the absence of any such regulations, with schedule 7A.3.

7A.6.5 Functionality requirements for type 1, 2, 3 and 4 metering installations

(a) This clause applies in respect of a type 1, 2, 3 or 4 *metering installation*.

(b) The *Metering Coordinator* at a *connection point* must ensure that the *metering installation* complies with the functionality requirements specified in schedule 7A.5.

7A.6.6 Altering a metering installation

(a) A *Metering Coordinator* may arrange to alter a type 5 or 6 *metering installation* to make it capable of *remote acquisition* if:

(1) the alteration is reasonably required to address operational difficulties; or

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

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

(c) For subparagraph (a)(1), operational difficulties arise if the *metering installation* is difficult or unsafe to access because:

(1) it is on a remote property;

(2) it is within a secure facility;

(3) it is in close proximity to hazardous materials; or

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

7A.6.7 Metering installation malfunctions

(a) A *Metering Coordinator* must, in respect of a *connection point* with:

(1) a type 1, 2 or 3 *metering installation*, if a *metering installation malfunction* occurs to the *metering installation*, cause repairs to be made to it as soon as practicable but no later than 2 *business days* after the *Metering Coordinator* has been notified of the *metering installation malfunction*; or

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

(b) A *Registered Participant*, *Metering Provider* or *Metering Data Provider* who becomes aware of a *metering installation malfunction* that cannot be rectified within the applicable timeframes as specified in paragraph (a) must notify the *Metering Coordinator* of the *metering installation malfunction* within 1 *business day*.

7A.6.8 Changing a metering installation

(a) Subject to this clause, nothing in these *Rules* prevents the financially responsible participant (on its own behalf or, in the case of a *retailer*, on its own behalf or on behalf of a *retail customer*) or *Network Service Provider* in respect of a *connection point* from requesting the *Metering Coordinator* to arrange for:

(1) the alteration of the *metering installation* at that *connection point*; or

(2) the installation of a new *metering installation* at that *connection point*.

(b) The incremental costs of the alteration of the *metering installation* or the installation of the new *metering installation* must be borne by the person who requests the alteration of the *metering installation* or the installation of the new *metering installation*.

7A.7 Maintenance (including inspection and testing) of metering installations

7A.7.1 Maintenance

The *Metering Coordinator* for a *connection point* must ensure that any maintenance (including inspection and testing) of a *metering installation* at the *connection point* is carried out in a safe manner by an appropriately qualified person.

7A.7.2 Responsibility for inspection and testing

(a) A person who arranges or carries out an inspection or testing of a *metering installation* under this clause must do so in accordance with:

(1) this clause; and

(2) the relevant inspection and testing requirements set out in schedule 7A.2.

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

(1) must not refuse the request; and

(2) must make arrangements for the testing.

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

(d) The *Metering Coordinator* must not refuse a request received under paragraph (c) and must, no later than 5 *business days* prior to the testing, advise:

(1) the party making the request; and

(2) the financially responsible participant,

of:

(3) the location and time of the tests; and

(4) the method of testing to be undertaken.

(e) If the *Metering Coordinator* has arranged testing of a *metering installation* under this clause and schedule 7A.2, the *Metering Coordinator* must:

(1) inform the financially responsible participant that testing has been undertaken in respect of the *metering installation* in accordance with this clause; and

(2) make the test results available in accordance with paragraphs (f) and (g).

(f) If the test results mentioned in paragraph (e) indicate deviation from the technical requirements for the *metering installation*, the *Metering Coordinator* must ensure that the test results are provided as soon as practicable to the persons who receive the *metering data* for the *metering installation* under clause 7A.9.3.

(g) If the test results mentioned in paragraph (e) indicate compliance with the technical requirements for the *metering installation*, the *Metering Coordinator* must ensure that the test results are provided as soon as practicable:

(1) in circumstances where the tests were requested by a *Registered Participant*, to the *Registered Participant* and persons who receive the *metering data* for the *metering installation* under clause 7A.9.3; or

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

(h) The cost of any testing under paragraph (b) must be borne by:

(1) if paragraph (f) applies – the *Metering Coordinator*; or

(2) otherwise – the *Registered Participant* who requested the test.

7A.7.3 Actions in event of non-compliance

If the accuracy of the *metering installation* does not comply with the requirements of the *Rules*, the *Metering Coordinator* must arrange for the accuracy of the *metering installation* to be restored within 10 *business days* or, if a timeframe is agreed with the relevant financially responsible participant, within that timeframe.

7A.7.4 Errors found in metering tests or inspections

(a) Subject to paragraph (c), if a *metering installation* test or inspection, carried out in accordance with clause 7A.7.2, demonstrates errors in excess of those prescribed in schedule 7A.1, the *Metering Coordinator* must ensure the *metering data* is substituted in accordance with this clause and clause 7A.8.6 as appropriate.

(b) If the *Metering Coordinator* is not aware of the time at which the error arose:

(1) the error is taken to have occurred at a time halfway 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; and

(2) the time that the error was taken to occur is to be used by the *Metering Data Provider* in performing substitution of the *metering data*.

(c) If a test of a *metering installation* demonstrates an error of measurement of less than 1.5 times the error permitted by schedule 7A.1, no substitution of readings is required.

7A.7.5 Retention of test records and documents

(a) All records and documentation of tests prepared under or for this Chapter must be retained in accordance with this clause.

(b) The *Metering Coordinator* must ensure records and documentation are retained as follows:

(1) for a period of at least 7 years:

(i) sample testing of *meters* while the *meters* of the relevant style remain in service;

(ii) the most recent sample test results of the *meters* mentioned in subparagraph (i) after the *meters* are no longer in service;

(iii) non-sample testing of *meters* while the *meters* remain in service;

(iv) the most recent non-sample test results after the *meters* are no longer in service;

(v) the most recent sample test results of *instrument transformers* after *instrument transformers* of the relevant type are no longer in service;

(vi) the most recent non-sample test results of *instrument transformers* after they are no longer in service;

(vii) tests of new *metering* equipment of the relevant style while the equipment remains in service; and

(viii) tests of new *metering* equipment of the relevant style after the equipment is no longer in service;

(2) for a period of at least 10 years:

(i) sample testing of *instrument transformers* while *instrument transformers* of the relevant type remain in service; and

(ii) non-sample testing of *instrument transformers* while the *instrument transformers* remain in service.

(c) In addition, the *Metering Coordinator* must ensure records of type tests and pattern approvals carried out or obtained in accordance with clause S7A.1.5.1(f) are retained while *metering* equipment of the relevant type remains in service and for at least 7 years after it is no longer in service.

Part E Metering data

7A.8 Metering data services

7A.8.1 Metering data services

Metering Data Providers must provide *metering data services*, including the following, in accordance with the *Rules*:

(a) collecting *energy data* by local access or *remote acquisition*;

(b) the validation and substitution of *metering data* for types 1, 2, 3 and 4 *metering installations*;

(c) the validation, substitution and estimation of *metering data* for types 4A, 5 and 6 *metering installations*;

(d) the calculation, estimation and substitution of *metering data* for type 7 *metering installations*;

(e) establishing and maintaining a *metering data services database* associated with each *metering installation* and providing access to the *metering data services database* in accordance with clause 7A.8.3;

(f) ensuring the *metering data* and other data associated with the *metering installation* is kept secure and disclosed only in accordance with the *Rules*;

(g) maintaining the standard of accuracy of the time setting of the *metering installation* in accordance with clause 7A.8.7;

(h) notifying the *Metering Coordinator* of any *metering installation malfunction* in accordance with clause 7A.6.7;

(i) management and storage of *metering data* in accordance with clause 7A.8.3.

7A.8.2 Collection of energy data and estimation of metering data

(a) A *Metering Data Provider* must, in accordance with this rule, collect *energy data* from, and estimate *metering data* in respect of, a *metering installation* at a *connection point* for which it has been appointed the *Metering Data Provider*.

Scheduled meter reading

(b) The *Metering Data Provider* must use reasonable endeavours to ensure that *energy data* is collected from a *metering installation* by way of an actual meter reading at least once every 3 months or, where a greater frequency has been agreed with a financially responsible participant, at that greater frequency.

(c) Despite paragraph (b), the *Metering Data Provider* must ensure that *energy data* is collected from a *metering installation* by way of an actual meter reading at least once every 12 months.

Special meter reading

(d) The *Metering Data Provider* must perform a special meter reading (including a final *meter* reading) at the request of a financially responsible participant.

(e) The *Metering Data Provider* may charge the financially responsible participant for the collection of *energy data* under paragraph (d) to the extent that its costs of collection are higher than they would otherwise be.

Estimated metering data

(f) When *energy data* is not collected by the *Metering Data Provider* from a *metering installation* by way of an actual meter reading at the applicable *meter* reading frequency under paragraph (b), the *Metering Data Provider* must estimate *metering data* for that *metering installation* in accordance with schedule 7A.3.

(g) *Estimated metering data* for the purposes of paragraph (f) must be provided to the *retailer* within 10 *business days* of the scheduled meter reading date under paragraph (b).

Altering energy data

(h) The *energy data* in a *metering installation* must not be altered except when the *metering installation* is reset to zero as part of a repair or reprogramming.

7A.8.3 Data management and storage

(a) A *Metering Data Provider* must:

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

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

(ii) following the retention under subparagraph (1)(i), in an accessible format for at least 7 years; and

(2) archive, in an accessible format, for 7 years:

(i) *metering data* in its original form as collected from the *metering installation*; and

(ii) records of each substitution to *metering data* in respect of a *metering installation*; and

(3) provide the persons mentioned in clause 7A.9.3(c)(1) to (5) with access to the *metering data* and *NT NMI data* in the *metering data services database*; and

(4) except for the persons mentioned in clause 7A.9.3(c)(1) to (5), ensure that no person has access to the *metering data services database*.

(b) A *Metering Data Provider* must maintain *electronic data transfer* facilities in order to deliver *metering data* from the *metering data services database* in accordance with any jurisdictional obligations and clause 7A.8.4.

(c) *Metering data* may only be altered by a *Metering Data Provider*.

(d) A *Metering Data Provider* may only alter *metering data* in the *metering data services database* in accordance with schedule 7A.3.

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

7A.8.4 Provision of metering data to certain persons

A *Metering Data Provider* must give *metering data* and relevant *NT NMI data* to the persons mentioned in clause 7A.9.3(c)(1) to (5) as required by, and in accordance with, the *Rules*.

7A.8.5 Use of check metering data

Check metering data, if available and if it has been appropriately adjusted for differences in *metering installation* accuracy, must be used by *Metering Data Providers* for:

(a) validation;

(b) substitution; and

(c) estimation,

of *metering data* as required by clause 7A.8.1.

7A.8.6 Validation, substitution and calculation of metering data

Metering installations other than type 7 metering installations

(a) A *Metering Data Provider* responsible for a *metering installation*, other than a type 7 *metering installation*, must ensure that the *metering data* collected from the installation is validated in accordance with schedule 7A.3.

(b) If validation under paragraph (a) demonstrates that there has been a failure of the *metering installation* or that a measurement error exists:

(1) the *metering data* must be substituted in accordance with schedule 7A.3;

(2) the *Metering Data Provider* must provide the status flag of the *substituted metering data* to the financially responsible participant for its record; and

(3) for *connection points* associated with a *retail customer* – the *Metering Data Provider* must provide the *substituted metering data* to the *retailer* so that the *retailer* can meet its billing obligations.

(c) The *Metering Data Provider*:

(1) must make a separate record of any substitution made under this clause, including:

(i) the reasons for the substitution;

(ii) the methodology used for the substitution; and

(iii) the *substituted metering data*; and

(2) must maintain the record for 7 years and provide access to the record at reasonable times to the relevant financially responsible participant.

Type 7 metering installations

(d) A *Metering Data Provider* responsible for a type 7 *metering installation* must ensure that the *metering data* for that installation:

(1) is calculated in accordance with the *Network Service Provider's* applicable procedure, which must be based on a methodology in, or otherwise be consistent with, schedule 7A.3; and

(2) is validated in accordance with schedule 7A.3.

(e) If validation under paragraph (d)(2) demonstrates that a measurement error exists, the *Metering Data Provider* must ensure the *metering data* is substituted in accordance with schedule 7A.3.

7A.8.7 Time settings

(a) The *Metering Provider* must set the times of clocks of all *metering installations* with reference to *Australian Central Standard Time* to a standard of accuracy in accordance with schedule 7A.1 relevant to

the *load* through the *connection point* when installing, testing and maintaining *metering installations*.

(b) The *Metering Data Provider* must maintain the *metering data services database* clock within +/– 1 second of *Australian Central Standard Time*.

(c) The *Metering Data Provider* must:

(1) check the accuracy of the clock of the *metering installation* with reference to *Australian Central Standard Time* to a standard of accuracy in accordance with schedule 7A.1 relevant to the *load* through the *connection point* on each occasion that the *metering installation* is accessed;

(2) reset the clock of the *metering installation* so that it is maintained to the required standard of accuracy in accordance with schedule 7A.1 relevant to the *load* through the *connection point* if the clock error of a *metering installation* does not conform to the required standard of accuracy on any occasion that the *metering installation* is accessed; and

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

Part F Security of metering installations, energy data and metering data

7A.9 Security of metering installations, energy data and metering data

7A.9.1 Security of metering installations

General security

(a) The *Metering Coordinator* at a *connection point* must ensure that the *metering installation* is secure and that associated links, circuits and information storage and processing systems are protected by appropriate security mechanisms.

Provision of seals

(b) The *Metering Coordinator* for a *metering installation* must:

(1) provide seals or other appropriate devices to detect interference; and

(2) maintain a register of all relevant security fitting tools and seals.

Broken seals

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

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

(1) the first occasion on which the metering equipment is visited to take a reading; or

(2) 70 *business days*,

after receipt of notification that the seal has been broken.

(e) The costs of replacing broken seals as required by paragraph (d) are to be borne by:

(1) the financially responsible participant if the seal was broken by a *retail customer* of the financially responsible participant;

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

(3) the *Metering Provider* if the seal was broken by the *Metering Provider*;

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

(5) otherwise by the *Metering Coordinator*.

(f) If it appears that, as a result of, or in connection with, the breaking of a seal mentioned in paragraph (c) the relevant *metering* equipment may no longer meet the relevant minimum standard, the *Metering Coordinator* must ensure that the *metering* equipment is tested in accordance with clause 7A.7.2.

7A.9.2 Security controls for energy data

(a) The *Metering Coordinator* at a *connection point* must ensure that *energy data* held in the *metering installation* is protected from local access and remote access by suitable password and security controls.

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

(c) The *Metering Provider* must allocate suitable passwords to the *Metering Data Provider* to enable the *Metering Data Provider* to collect the *energy data* and maintain the clock of the *metering installation* in accordance with clause 7A.8.7.

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

7A.9.3 Access to data

(a) Access to *energy data* recorded by a *metering installation* must only be given if passwords are allocated in accordance with clause 7A.9.2.

(b) The *Metering Coordinator* must ensure that access to *energy data* from the *metering installation* is scheduled appropriately to ensure that congestion does not occur.

(c) Subject to this clause, the only persons entitled to access or receive *metering data* or *NT NMI data* for a *metering installation* are:

(1) the financially responsible participant in respect of the *connection point* for the *metering installation* and any other *Registered Participant* with a financial interest in the *metering installation* or the *energy* measured by the *metering installation*;

(2) the *Metering Coordinator* appointed in respect of the *connection point* for the *metering installation*;

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

(4) the *Metering Data Provider* appointed with respect to the *metering installation*;

(5) the *Network Service Provider* associated with the *connection point*; and

(6) the *AER* and the *Utilities Commission*.

(d) In addition to the persons mentioned in paragraph (c), the following persons may access or receive *metering data* in accordance with the *Rules*:

(1) a *retail customer* or *customer authorised representative*, upon request by that *retail customer* or its *customer authorised representative* to the *retailer* or *Distribution Network Service Provider* in relation to that *retail customer's metering installation*;

(2) the NT Ombudsman.

(e) A *retailer* or *Distribution Network Service Provider* must, upon request by a *retail customer* or its *customer authorised representative* under paragraph (d)(1), provide information about the *retail customer's energy* consumption for the previous 2 years.

(f) Without limiting this clause:

(1) a *retailer* is entitled to access or receive *NT NMI data*;

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

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

after having first done whatever may be required, if relevant, under any applicable privacy legislation and clause 7A.9.5 including, if appropriate, making relevant disclosures or obtaining relevant consents from *retail customers*.

7A.9.4 Additional security controls for type 4 metering installations

In respect of a type 4 *metering installation*:

(a) the *Metering Coordinator* must ensure that access to *energy data* held in the *metering installation* is given only:

(1) to a person who is permitted to have access to it under the *Rules*; and

(2) for a purpose that is permitted under the *Rules*;

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

(1) in respect of:

(i) a remote *disconnection* service and the *metering data* in connection with that service – to the relevant *Network Service Provider* and the financially responsible participant;

(ii) a remote *reconnection* service and the *metering data* in connection with that service – to the relevant *Network Service Provider*, the financially responsible participant and the incoming *retailer*;

(iii) a remote on-demand *meter* reading service and the *metering data* in connection with that service – to *Registered Participants* with a financial interest in the *metering installation* or the *energy* measured by that *metering installation* and a person to whom an end use customer has given its consent under subparagraph (3)(ii);

(iv) a remote scheduled *meter* reading service and the *metering data* in connection with that service – to *Registered Participants* with a financial interest in the *metering installation* or the *energy* measured by that *metering installation* and a person to whom an end use customer has given its consent under subparagraph (3)(ii);

(v) a *metering installation* inquiry service and the *metering data* in connection with that service – to the relevant

Network Service Provider, the financially responsible participant and a person to whom an end use customer has given its consent under subparagraph (3)(ii); and

(vi) an advanced *meter* reconfiguration service and the *metering data* in connection with that service – to the relevant *Network Service Provider* and the financially responsible participant;

(2) to a person who is permitted to have access to it under the *Rules* and for a purpose that is permitted under the *Rules*; or

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

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

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

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

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

(e) the *Metering Provider* must:

(1) forward a copy of a password allowing local access and a copy of a password allowing remote access to the *metering installation*, services provided by the *metering installation* and *energy data* held in the *metering installation*, to the *Metering Coordinator* and *Metering Data Provider*; and

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

7A.9.5 Confidentiality of data

(a) *Energy data*, *metering data*, *NT NMI data* and passwords are confidential and must be treated as *confidential information* in accordance with the *Rules*.

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

Schedule 7A.1 Types and accuracy of metering installations

S7A.1.1 General requirements

This schedule sets out the minimum requirements for *metering installations*.

S7A.1.2 Accuracy requirements for metering installations

Table S7A.1.2.1 Overall Accuracy Requirements of Metering Installation Components

Type	Volume limit per annum per connection point	Maximum allowable overall error (±%) at full load (Item 6)		Minimum acceptable class or standard of components	Metering installation clock error (seconds) in reference to ACST
		active	reactive		
1	greater than 1 000GWh	0.5	1.0	0.2CT/VT/*meter* Wh 0.5 *meter* varh	±5
2	100 to 1 000GWh	1.0	2.0	0.5CT/VT/*meter* Wh 1.0 *meter* varh	±7
3	0.75 to less than 100 GWh	1.5	3.0	0.5CT/VT 1.0 *meter* Wh 2.0 *meter* varh (Item 1)	±10
4	less than 750 MWh (Item 2)	1.5	n/a	Either 0.5 CT and 1.0 *meter* Wh; or whole current general purpose *meter* Wh meets requirements of clause 7A.6.2(a)(9) (Item 1)	±20
4A	less than x MWh (Item 3)	1.5	3.0	Either 0.5 CT and 1.0 *meter* Wh; or whole current general purpose *meter* Wh meets requirements of clause 7A.6.2(a)(10)	±20

Type	Volume limit per annum per connection point	Maximum allowable overall error (±%) at full load (Item 6) active	reactive	Minimum acceptable class or standard of components	Metering installation clock error (seconds) in reference to ACST
5	less than x MWh (Item 3)	1.5	n/a	Either 0.5 CT and 1.0 *meter* Wh; or whole current connected general purpose *meter* Wh meets requirements of clause 7A.6.2(a)(10). (Item 1)	'±/-20'
6	less than y MWh (Item 4)	2.0	n/a	CT or whole current general purpose *meter* Wh recording *accumulated energy data* only. Processes used to convert the *accumulated metering data* into *recording interval metering data* and *estimated metering data* where necessary are included in schedule 7A.3. (Item 1)	
7	volume limit not specified (Item 5)	(Item 6)	n/a	No *meter*. The *metering data* is *calculated metering data* determined in accordance with schedule 7A.3.	n/a

Item 1: (a) For a type 3, 4, 4A, 5 and 6 *metering installation*, whole current *meters* may be used if the *meters* meet the requirements of the relevant *Australian Standards* and International Standards identified in schedule 7A.3.

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

Item 2: *High voltage* customers that require a VT and whose annual consumption is below 750 MWh, must meet the relevant accuracy requirements of

Type 3 *metering* for *active energy* only.

Item 3 In relation to a type 4A and type 5 *metering installation*, the value of 'x' in this jurisdiction is 0 MWh per annum.

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

(1) the value of 'y' in this jurisdiction is 750 MWh per annum;

(2) devices within the *metering installation* may record *accumulated energy data* in predetermined daily time periods where such time periods are specified in schedule 7A.3.

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

(b) The condition in paragraph (a) will only be allowed for *connection points* that satisfy relevant jurisdictional requirements.

Note:

The requirements referred to in paragraph (b) will be considered as part of the phased implementation of the *Rules* in this jurisdiction.

(c) A *connection point* that meets the condition for classification as a type 7 *metering installation* does not prevent that *connection point* from being subject to *metering* in the future.

Item 6: The maximum allowable overall error (±%) at different *loads* and *power factors* is set out in Table S7A.1.2.2 to Table S7A.1.2.6.

Table S7A.1.2.2 Type 1 installation – Annual Energy Throughput greater than 1 000 GWh

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

Table S7A.1.2.3 Type 2 installation – Annual Energy Throughput between 100 and 1 000 GWh

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

Table S7A.1.2.4 Type 3 installation – Annual Energy Throughput from 0.75 GWh to less than 100 GWh and Type 4A installation – Annual Energy Throughput less than 0.75 GWh

% Rated Load	Power Factor					
	Unity	0.866 lagging		0.5 lagging		Zero
	active	active	reactive	active	reactive	reactive
10	2.5%	2.5%	5.0%	n/a	n/a	4.0%
50	1.5%	1.5%	3.0%	2.5%	5.0%	3.0%
100	1.5%	1.5%	3.0%	n/a	n/a	3.0%

Table S7A.1.2.5 Type 4 or 5 installation – Annual Energy Throughput less than 0.75 GWh

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

Table S7A.1.2.6 Type 6 installation – Annual Energy Throughput less than 0.75 GWh

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

Note:

All measurements in Tables S7A.1.2.2 – S7A.1.2.6 are to be referred to 25 degrees Celsius.

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

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

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

c = the error of the *meter*.

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

S7A.1.3 Check metering

(a) Where a *check metering installation* is in place, it is to be applied in accordance with the following Table:

Metering Installation Type in accordance with Table S7A.1.2.1	Check Metering Requirements
1	*Check metering installation*
2	Partial check *metering*
3	No requirement
4, 4A, 5 and 6	No requirement

(b) Where a *check metering installation* is not in place, and a financially responsible participant requests the installation of a *check metering installation* at a *connection point*, the *Metering Coordinator* at the *connection point* must arrange for the installation of a *check*

metering installation that complies with the requirements of this schedule.

(c) A *check metering installation* involves the provision of a separate *metering installation* using separate *current transformer* cores and separately fused *voltage transformer* secondary circuits, preferably from separate secondary windings.

(d) Where the *check metering installation* duplicates the *metering installation* and accuracy level, the average of the 2 validated data sets will be used to determine the *energy* measurement.

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

S7A.1.4 Resolution and accuracy of displayed or captured data

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

(a) meet the requirements of the relevant *Australian Standards* and International Standards specified in schedule 7A.3; and

(b) comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the *National Measurement Act*.

S7A.1.5 General design standards

S7A.1.5.1 Design requirements

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

(a) for *metering installations* greater than 1 000 GWh pa per *connection point*, the *current transformer* core and secondary wiring associated with the *meter(s)* must not be used for any other purpose;

(b) for *metering installations* less than 1 000 GWh pa per *connection point*, the *current transformer* core and secondary wiring associated with the *meter(s)* may be used for other purposes (for example, local *metering* or protection) provided the *Metering Coordinator* is able to demonstrate that the accuracy of the *metering installation* is not compromised and suitable procedures/measures are in place to protect the security of the *metering installation*;

(c) where a *voltage transformer* is required, if separate secondary windings are not provided, then the *voltage* supply to each *metering installation* must be separately fused and located in an accessible position as near as practical to the *voltage transformer* secondary winding;

(d) secondary wiring must be by the most direct route and the number of terminations and links must be kept to a minimum;

(e) the incidence and magnitude of burden changes on any secondary winding supplying the *metering installation* must be kept to a minimum;

(f) *meters* must:

(1) meet the requirements of relevant *Australian Standards* and International Standards (if any) specified in schedule 7A.3; and

(2) have a valid pattern approval issued under the authority of the National Measurement Institute or, until relevant pattern approvals exist, a valid type test certificate;

(g) new *instrument transformers* must:

(1) meet the requirements of relevant *Australian Standards* and International Standards (if any) specified in schedule 7A.3; and

(2) have a valid pattern approval issued under the authority of the National Measurement Institute or, until relevant pattern approvals exist, a valid type test certificate;

(h) suitable *isolation* facilities are to be provided to facilitate testing and calibration of the *metering installation*;

(i) suitable drawings and supporting information, detailing the *metering installation*, must be available for maintenance purposes.

S7A.1.5.2 Design guidelines

In addition to the design requirements specified in clause S7A.1.5.1, the following guidelines should be considered for each *metering installation*:

(a) the provision of separate secondary windings for each *metering installation* where a *voltage transformer* is required;

(b) a *voltage* changeover scheme where more than one *voltage transformer* is available.

Schedule 7A.2 Inspection and testing requirements

S7A.2.1 General

(a) The *Metering Coordinator* must ensure that equipment comprised in a purchased *metering installation* has been tested to the required class accuracy with less than the uncertainties set out in Table S7A.2.1.1.

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

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

(1) in accordance with clause 7A.7.2 and this schedule;

(2) to the same requirements as for new equipment where equipment is to be recycled for use in another site; and

(3) so as to include all data storage and processing components specified in schedule 7A.3, including algorithms used to prepare agreed *load* patterns.

(d) The testing intervals may be increased if the equipment type/experience proves favourable.

(e) The maximum allowable level of testing uncertainty (±) for all *metering* equipment must be in accordance with Table S7A.2.1.1.

Table S7A.2.1.1 Maximum Allowable Level of Testing Uncertainty (±)

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

Where cosφ is the *power factor* at the test point under evaluation.

Table S7A.2.1.2 Maximum Period Between Tests

Unless the *Metering Coordinator* has developed an approved asset management strategy that defines practices that meet the intent of this schedule, the maximum period between tests must be in accordance with Table S7A.2.1.2.

Description	Metering Installation Type				
	Type 1	Type 2	Type 3	Type 4 & 4A	Types 5 & 6
CT	10 years	10 years	10 years	10 years	10 years
VT	10 years	10 years	10 years		n/a
Burden tests	When *meters* are tested or when changes are made				
CT connected meter (electronic)	5 years	5 years	5 years	5 years	5 years
CT connected meter (induction)	2.5 years	2.5 years	5 years	5 years	5 years
Whole current meter	The testing and inspection requirements must be in accordance with an approved asset management strategy. **Note:** The requirements in relation to approval of an asset management strategy for the purposes of this provision will be considered as part of the phased implementation of the *Rules* in this jurisdiction.				

Table S7A.2.1.3 Period Between Inspections

Unless the *Metering Coordinator* has developed an approved asset management strategy that meets the intent of this schedule, the maximum period between inspections must be in accordance with Table S7A.2.1.3.

Description	Metering Installation Type			
	Type 1	Type 2	Type 3	Type 4, 4A, 5 & 6
Metering installation equipment inspection	2.5 years	12 months (2.5 years if check metering installed)	> 10 GWh: 2 years 2≤ GWh ≤ 10: 3 years <2 GWh: when *meter* is tested.	When *meter* is tested.

S7A.2.2 Technical guidelines

(a) *Current transformer* and *voltage transformer* tests are primary injection tests or other approved testing procedures that may include secondary injection testing.

Note:
The requirements in relation to approval for the purposes of this provision will be considered as part of the phased implementation of the *Rules* in this jurisdiction.

(b) The calculations of accuracy based on test results are to include all reference standard errors.

(c) An "estimate of testing uncertainties" must be calculated in accordance with the ISO "Guide to the Expression of Uncertainty for Measurement".

(d) For sinφ and cosφ refer to the ISO "Guide to the Expression of Uncertainty in Measurement", where cosφ is the *power factor*.

(e) A typical inspection may include:

(1) check the seals;

(2) compare the pulse counts;

(3) compare the direct readings of *meters*;

(4) verify *meter* parameters and physical connections; and

(5) *current transformer* ratios by comparison.

Schedule 7A.3 Metrology procedure

Part A

S7A.3.1 General

S7A.3.1.1 Purpose

The purpose of this schedule is to set out:

(a) the obligations on *Metering Providers* in relation to the provision, installation, routine testing and maintenance of a *metering installation*; and

(b) the obligations on *Metering Data Providers* in relation to the provision of *metering data services*.

S7A.3.1.2 Scope

This schedule provides information on the application of *metering installations* to *connection points*. In particular, this schedule sets out provisions for *metering installations* and *metering data services* relating to:

(a) *Metering Providers*, which include:

(1) the type of *metering installation* permitted for the measurement of *active energy*;

(2) the provision, installation, testing, inspection and maintenance of *metering installations*;

(3) the components of each type of *metering installation*;

(4) storage of, and access rights to, *energy data* in the *metering installation*; and

(b) *Metering Data Providers*, which include:

(1) the collection or calculation, processing and delivery of *metering data*; and

(2) storage of *metering data* in the *metering data services database* and rights of access to *metering data*.

S7A.3.1.3 Definitions

In this schedule:

data stream means a stream of *energy data* or *metering data* associated with a *metering point*, as represented by a *NMI*. For example, a *NMI* will have multiple data streams where one or more *meters* or one or more channels or registers comprise a single *meter*. Each data stream is identified by a suffix, which is associated with the *NMI* to which it belongs.

end user customer means the customer or retail customer who consumes electricity at the point of use.

estimation, estimate, estimated means the processing of *metering data*, undertaken by a *Metering Data Provider*, for the forward estimation of *metering data* where the scheduled meter reading cycle does not support the delivery time frames of *metering data* to *Registered Participants*.

final reading means the last actual meter reading for an end-use customer when they vacate an address or change *retailer* or the last actual meter reading taken before all or any part of a *metering installation* is removed or modified and where the modification affects the *energy data* in the *metering installation*.

ILAC means International Laboratory Accreditation Cooperation.

inventory table means a table of devices for unmetered *loads* associated with each *NMI* as described in clauses S7A.3.14.2(c) and S7A.3.14.3(c).

load table means a table of unmetered device *loads* as described in clause S7A.3.14.1.

on/off table means a table recording the switching status (On = 1, Off = 0) for each *recording interval* for the unmetered *loads* associated with a *NMI* as described in Part B of this schedule.

public holiday means a day as defined in section 17 of the *Interpretation Act* (NT) (other than a public holiday that is part of a day) in the City of Darwin.

reasonable endeavours, in relation to a person, means the person must act in good faith and do what is reasonably necessary in the circumstances.

sample test plan means a statement of the sample size or sizes to be taken, the frequency of sample testing and the required accuracy.

scheduled reading date means the date of the next scheduled meter reading.

substitute, substitution, substituted means a process undertaken by a *Metering Data Provider* for the substitution of missing (null) or erroneous *metering data* or where the *metering data* has failed the validation process.

unmetered means a *load* or a *connection point* at which a *meter* is not necessary under schedule 7A.1.

validate, validation, validated means a process undertaken by the *Metering Data Provider* to test the veracity and integrity of *metering data* prior to transfer to other *Registered Participants*.

S7A.3.1.4 References

This schedule makes reference to the *Australian Standards* listed below as in force from time to time:

General:	
AS 1199	Sampling procedures for inspection by attributes – Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection
AS 2490	Sampling Procedures and Charts for Inspection by Variables for Percent Nonconforming
Voltage transformer standards:	
AS 60044.2	Instrument transformers – Inductive voltage transformers
AS 60044.3	Instrument transformers – Combined transformers
AS 60044.5	Instrument transformers – Capacitor voltage transformers

AS 1243	Voltage Transformers for Measurement and Protection (for three phase voltage transformers only)
Current transformers standards:	
AS 60044.1	Instrument transformers – Current transformers
AS 60044.3	Instrument transformers – Combined transformers
Electricity meter standards:	
AS 1284.1	Electricity metering – General purpose induction watthour meters
AS 1284.10.2	Electricity metering – Data exchange for meter reading, tariff and load control – Direct local data exchange via hand-held unit (HHU) – ANSI Standard interface
AS 1284.13	Electricity Metering in-service compliance testing
AS 62052.11	Electricity metering equipment (AC) – General requirements, tests, test conditions – Metering equipment
AS 62052.21	Electricity metering equipment (AC) – General requirements, tests and test conditions – Tariff and load control equipment
AS 62053.21	Electricity metering equipment (AC) – Particular requirements – Static meters for active energy (classes 1 and 2)
AS 62053.22	Electricity metering equipment (AC) – Particular requirements – Static meters for active energy (classes 0.2S and 0.5S)
AS 62054.11	Electricity metering (AC) – Tariff and load control – Particular requirements for electronic ripple control receivers
AS 62054.21	Electricity metering (AC) – Tariff and load control – Particular requirements for time switches
AS 62056.21	Electricity metering – Data exchange for meter reading, tariff and load control – Direct local data exchange

S7A.3.2 Meter Provision

S7A.3.2.1 Application

The requirements of this clause S7A.3.2 are applicable to type 1, 2, 3, 4, 4A, 5 and 6 *metering installations.*

S7A.3.2.2 Metering installation components

(a) *Meters* used in type 1, 2, 3, 4, 4A, 5 and 6 *metering installations* must comply with any applicable specifications or guidelines

(including transitional arrangements) specified by the National Measurement Institute, under the *National Measurement Act*, and must also meet the relevant requirements of *Australian Standards* and International Standards:

(1) for type 1, 2, 3, 4, 4A, and 5 (including type 3 and 4 whole current) *metering installation measurement elements*: *AS* 62052.11, *AS* 62053.21 and *AS* 62053.22; and

(2) for type 6 *metering installation measurement elements*: *AS* 1284.1, *AS* 62053.21 and *AS* 62052.11.

(b) New *current transformers* for type 1, 2, 3, 4, 4A, 5 and 6 *metering installations* must meet the relevant requirements of *AS* 60044.1 and must also comply with any applicable specifications or guidelines (including transitional arrangements) specified by the National Measurement Institute, under the *National Measurement Act*.

(c) New *voltage transformers* for type 1, 2, 3, 4, 4A, 5 and *6 metering installations* must meet the relevant requirements of *AS* 60044.2, *AS* 60044.3, *AS* 60044.5 and *AS* 1243 and must also comply with any applicable specifications or guidelines (including transitional arrangements) specified by the National Measurement Institute, under the *National Measurement* Act.

(d) The *Metering Coordinator* at a *connection point* with a type 4 *metering installation* must ensure that *energy data* is retrieved from that type 4 *metering installation* via remote access.

(e) The *Metering Provider* must ensure that *metering* equipment purchased must have a valid pattern approval issued under the authority of the National Measurement Institute or, until relevant pattern approvals exist, a valid type test certificate issued by a *NATA* accredited laboratory or a body recognised by *NATA* under the ILAC mutual recognition scheme.

(f) The *Metering Provider* must ensure that a visible display is provided to display, at a minimum, the cumulative total *energy* for each data stream measured by that *metering installation*.

(g) *Metering data* is required for all *recording intervals* on a daily basis at a level of availability of at least 95% per annum from type 1, 2, 3 and 4 *metering installations*.

(h) In relation to summation *metering*:

(1) if summation *metering* is achieved by paralleling *current transformer* secondary circuits, the overall *metering* system must meet the minimum standards for a new *metering installation* under all *load* combinations of the individual *current transformer* secondaries;

(2) if summation *metering* is achieved by the arithmetic sum of data registers or the accumulation of pulses, each individual *metering point* must meet the minimum standards for a new

metering installation and the *Metering Provider* must on request demonstrate that the summation techniques reliably and accurately transfer data;

(3) *current transformer* secondaries can only be paralleled using appropriate arrangements of links; this must not be done at the *meter* terminals; and

(4) for type 2 *metering installations* only, direct summation, in which secondary wiring from a multiple number of feeders are connected directly into the terminals of a *meter*, or summation *CTs* are permitted provided that the overall errors of the installation are considered.

(i) Where a *metering installation* records *interval energy data* the interval periods are based on:

(1) the end of each interval for a 15 minute interval period must be on the hour, on the half-hour and on each quarter of an hour (*ACST*);

(2) the end of each interval for a 30 minute interval period must be on the hour and on the half-hour (*ACST*); and

(3) other sub-multiple intervals, where agreed with the relevant *Network Service Provider* and the financially responsible participant, provided that the ends of the intervals correspond each and every exact hour (*ACST*) and half-hour (*ACST*).

(j) For type 1, 2, 3, 4, 4A and 5 *metering installations* with a pulse output, the *measurement element* pulse output must provide a number of energy pulses in each integrating period commensurate with the accuracy class of the *metering installation* when operating at the top of the range of measurement of the *metering installation*, but may be set at a lower rate where the anticipated operating range is significantly lower than the top of the range of measurement of the *metering installation*.

(k) The *Metering Provider* must provide pulse output facilities representing the quantity of electricity measured, in accordance with the relevant *Australian Standard* for that *meter*, within a reasonable time of being requested by a financially responsible participant to provide such facilities.

(l) Where the *metering installation* includes equipment for *load* control or the measurement of *reactive energy*, the installation and operation of that equipment will be governed by an instrument other than this schedule, such as, for example, a 'use of system' agreement between the relevant *Network Service Provider* and the financially responsible participant.

(m) Any programmable settings available within the *metering installation*, or any peripheral device, which may affect the resolution of displayed or stored data, must meet the relevant

requirements of *AS* 62052.11, *AS* 62053.21 and *AS* 62053.22 and must comply with any applicable specifications or guidelines (including transitional arrangements) specified by the National Measurement Institute, under the *National Measurement Act*.

(n) A type 4A or 5 *metering installation* must have an optical port that meets the relevant requirements of *AS* 1284.10.2 or *AS* 62056.21 or a computer serial port to facilitate downloading of 90 *days* of half hourly *interval energy data*, for each *meter* associated with the *metering installation*, in 35 seconds or less.

(o) A type 4A, 5 or 6 *metering installation* clock is to be reset to within ± 20 seconds of *Australian Central Standard Time* on each occasion that the *metering installation* is accessed, in accordance with the following requirements, and the maximum drift in the type 5 *metering installation* clock permitted between successive *meter* readings is ± 300 seconds:

(1) the *Metering Provider* must reset a type 4A, 5 or 6 *metering installation* clock when inspecting, maintaining or commissioning the *metering installation*;

(2) the *Metering Data Provider* must reset a type 4A or 5 *metering installation* clock when *interval metering data* is collected from the *metering installation*.

(p) A type 4A or 5 *metering installation* must have provision for future upgrade to a type 4 *metering installation* without the need for replacement of the *measurement element*.

(q) For type 6 *metering installations* with different time of day rates, the *metering installation* must meet the relevant requirements of *AS* 62054.11, *AS* 62054.21 and *AS* 62052.21, or have the switching between the different rates controlled by a frequency injection relay or time clock operated by the relevant *Network Service Provider*.

S7A.3.2.3 Routine testing and inspection of metering installations

(a) The *Metering Coordinator* must ensure that type 1, 2, 3, 4, 4A, 5 and 6 *metering installations* are tested and inspected in accordance with rule 7A.7, schedule 7A.2 and this schedule.

(b) If the accuracy of the *metering installation* does not comply with the requirements of the *Rules*, the *Metering Coordinator* must undertake the actions in accordance with clauses 7A.7.3 and 7A.7.4.

(c) If, for type 4A, 5 and 6 *metering installations*, a *metering installation* test or inspection demonstrates errors in excess of those prescribed and the time at which those errors arose is not known, the error is 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*, or the *meter* family to which the *meter* of the *metering installation* belongs, complied with the relevant accuracy requirement and the time when the error was detected.

S7A.3.3 Metering Data Services Provision

S7A.3.3.1 Application

The requirements of this clause are applicable to type 4A, 5, 6 and 7 *metering installations.*

S7A.3.3.2 Verification of metering data for type 4A, 5, 6 and 7 metering installations

(a) The *Metering Coordinator* must ensure that a sample test plan is established and maintained, in accordance with *AS* 1199 or *AS* 2490 to validate that the *metering data* stored in the *metering data services database* with respect to a type 4A, 5 or 6 *metering installation* is consistent with the data stored in the metering installation.

(b) The verification test must be conducted at a frequency in accordance with the sample test plan described in paragraph (a), which must not be less than once every 12 months.

(c) If there is an inconsistency between the *energy data* held in a *metering installation* and the *metering data* held in the *metering data services database*, the *energy data* in the *metering installation* is to be taken as prima facie evidence of the amount of electricity supplied to that *metering point*, except if the *meter* or components of the *metering installation* are found to be not compliant.

(d) The *Metering Coordinator* must ensure that a sample test plan is established and maintained to validate that the *calculated energy data* stored in the *metering data services database*, with respect to a type 7 *metering installation*, is consistent with the physical inventory.

(e) A verification test must be conducted at a frequency in accordance with the sample test plan described in paragraph (d), which must not be less than once every 12 months.

(f) The *calculated metering data* stored in a *metering data services database* for a type 7 *metering installation*, for a *NMI*, is consistent with the physical inventory if the error associated with calculating the *energy* value for the sample, that is,

$$\frac{\sum_{i=1}^{n} \left(\text{Agreed } \textit{load} \text{ per device type as per } \textit{load table}\right)_i * \left(\text{Actual number of device type in the sample geographic area}\right)_i}{\sum_{i=1}^{n} \left(\text{Agreed } \textit{load} \text{ per device type as per } \textit{load table}\right)_i * \left(\text{Number of device type in the sample geographic area as per } \textit{inventory table}\right)_i} - 1$$

where i = device type

is within the accuracy requirement determined in accordance with paragraph (g).

(g) The accuracy requirement for the *calculated metering data* for a type 7 *metering installation*, based on the formula in paragraph (f), is within ± 2.0%.

Note:
The application of this paragraph will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

(h) If there is an inconsistency between the inventory table held in the *metering data services database* for a type 7 *metering installation* and the physical inventory, the physical inventory is to be taken as prima facie evidence of the actual number of devices.

S7A.3.3.3 Request for testing type 7 metering installation calculated metering data

(a) If requested, in accordance with clause 7A.7.2, by a *Registered Participant* with a financial interest in the type 7 *metering installation* or the *calculated metering data* for a type 7 *metering installation*, the *Metering Coordinator* must make arrangements to test that the *calculated metering data* stored in the *metering data services database* is consistent with the physical inventory for the type 7 *metering installation*.

(b) Where the *Registered Participant* requests a type 7 *metering installation calculated metering data* test in accordance with paragraph (a):

(1) the *Metering Coordinator* must use reasonable endeavours to conduct the test within 15 *business days* of the request; and

(2) the *Metering Coordinator* must, prior to any test being undertaken, provide an estimate of costs associated with the test.

(c) Where there is a discrepancy between the *calculated metering data* held in the *metering data services database* for a type 7 *metering installation* and the physical inventory, the physical inventory is to be taken as prima facie evidence of the actual number of devices.

(d) Where the *Metering Coordinator* has undertaken testing of a type 7 *metering installation calculated metering data* under paragraph (a), the *Metering Coordinator* must make the test results available in accordance with clause 7A.7.2.

(e) If the *calculated metering data* accuracy does not comply with the requirements of clause S7A.3.3.2(g), the *Metering Coordinator* must undertake the actions in accordance with clauses 7A.7.3 and 7A.7.4.

Part B

S7A.3.4 Substitution for type 1 to 4 metering installations

S7A.3.4.1 Application of clause S7A.3.4

(a) The requirements of clauses S7A.3.4.2 and S7A.3.4.3 apply to type 1, 2, 3 and 4 *metering installations*.

(b) The requirements of clauses S7A.3.4.2 and S7A.3.4.3 are applicable to all *metering data* substitution types to be undertaken by *Metering Data Providers* accredited for the collection, processing and delivery of *metering data* from type 1, 2, 3 and 4 *metering installations*.

(c) For all *metering data* substitutions undertaken under clauses S7A.3.4.2 and S7A.3.4.3, for type 1, 2, 3 and 4 *metering installations*, the *Metering Data Provider* must ensure the selected *metering data* substitution values correctly align with the adjoining intervals of *metering data* and that any intervals of *metering data* adjacent to the substituted period are valid.

S7A.3.4.2 Type 1 to 4 substitution rules

(a) The *Metering Data Provider* must carry out all *metering data* substitutions in accordance with this schedule.

(b) The *Metering Data Provider* must obtain clear and concise identification as to the cause of any missing or erroneous *metering data* for which substitutions are required.

(c) The *Metering Data Provider* must undertake to do a type 11 substitution and use *metering data* obtained from any *check metering installation* associated with the *connection point* as the first choice considered for the source of *metering data* for any substitutions undertaken.

(d) Subject to paragraph (e), SCADA *metering data*, where available, may be used by the *Metering Data Provider* as *check metering data* for substitutions.

(e) *Metering Data Providers* may only undertake substitution type 13 where substitution types 11 and type 12 are not applicable or cannot be carried out.

(f) For *connection points* where the financially responsible participant is a *Generator*:

(1) *Metering Data Providers* may directly undertake type 11, type 12 or type 13 substitutions as a consequence of missing or erroneous *metering data* that has failed validation;

(2) *Metering Data Providers* may undertake type 16 (Agreed Method) or Type 18 (Alternate) substitutions following consultation and agreement with the *Generator* that the substituted *metering data* is an accurate reflection of the *interval metering data* concerned; and

(3) in the situation where *metering data* cannot be recovered from the *metering installation* or substituted in accordance with this paragraph (f) within the required *metering data* delivery performance time frames, the *Metering Data Provider* must

undertake type 19 substitutions as an interim until *metering data* can be recovered from the *metering installation* or substituted.

(g) *Metering Data Providers* may only undertake substitution types 14, 15, 16, 17, 18, or 19 where substitution types 11, 12 and 13 are not applicable or cannot be carried out.

(h) *Metering Data Providers* may perform all *metering data* substitution types except type 16 or type 18 without prior agreement from the affected parties. *Metering Data Providers* may however undertake to change the quality flag to an existing type 16 or type 18 substitution without seeking further agreement from the affected parties.

(i) The *Metering Data Provider* must notify the relevant *Network Service Provider*, the relevant *retailer* and the financially responsible participant for the *connection point* of any *metering data* substitution within 2 *business days* of the *metering data* substitution being carried out by the *Metering Data Provider*.

(j) Where a *metering installation malfunction* is a failure of the *remote acquisition* system, and the financially responsible participant and *Metering Provider* cannot repair the data communications within the periods specified in the *Rules* (2 *business days* for type 1, 2 and 3 *metering installations* and 10 *business days* for type 4 *metering installations*), the *Metering Data Provider* must:

(1) request from the *Metering Provider*, the provision of a manual download of *metering data* from the *metering installation* in the time frames to meet *metering data* delivery requirements; and

(2) where the malfunction includes a failure of the *meter* to correctly record *interval energy data* and the *Metering Provider* has acquired an exemption to repair the *metering installation*, then the *Metering Data Provider* must substitute for the missing *metering data* in accordance with this schedule.

(k) The *Metering Data Provider* must ensure that all *metering data* substitutions are replaced with actual *metering data* when that *metering data* becomes available.

S7A.3.4.3 Type 1 to 4 substitution types

Type 11 – Check Data

(a) The *Metering Data Provider* must use *interval metering data* obtained from another *metering installation* that has been identified by the *Metering Provider* as being the *check metering installation* for that *metering point*. The *metering data* used must be for the same *recording intervals* as the *recording intervals* that are being substituted. *Metering installations* of this type include but are not limited to:

(1) the *metering installation* and *check metering installation* are installed at the same *connection point*;

(2) the *metering installation* and *check metering installation* are installed on different ends of a *transmission line* where the difference due to line losses can be accurately determined; and

(3) *metering installations* across a parallel set of feeders having similar line impedances between a common set of *busbars*.

Type 12 – Calculated

(b) The *Metering Data Provider* must calculate the *interval metering data* values to be substituted where they relate to a single unknown feed to a node, based on the other known *energy* flows to or from that node.

Type 13 – SCADA

(c) The *Metering Data Provider* must use EMS or SCADA data for substitution purposes, which originates from a similar measurement point as the *meter*.

(d) EMS or SCADA data may be data which is inferior in accuracy or resolution and which is in a dissimilar format to the *metering data*, (for example, 30 Min. Demand values). The *Metering Data Provider* may have to adjust the data in both magnitude and form in order that the substitution is acceptable.

(e) In any instance where SCADA data is to be used for substitution, both the provided E channel and B channel SCADA data streams must be used.

Type 14 – Like Day

(f) The *Metering Data Provider* must substitute for the missing or erroneous *metering data* using the nearest equivalent day or like day method, as detailed in the following Table.

Type 14	
Substitution Day	**Nearest Equivalent Day or Like Day (in order of availability)**
Monday	Monday##
Tuesday	Tuesday## Wednesday## Thursday## Wednesday# Thursday#
Wednesday	Wednesday## Tuesday# Thursday## Thursday# Tuesday##
Thursday	Thursday## Wednesday# Tuesday# Wednesday## Tuesday##
Friday	Friday##
Saturday	Saturday##

Sunday	Sunday##
Metering data substitutions for **like day** to be as detailed above, unless: (a) No *metering data* is available on the first listed day, then the next listed preferred day is to be used. If there is no other suitable listed day, or no *metering data* is available on any of the listed days then type 15 substitution must be used. (b) The substitution day was a public holiday, in which case the most recent Sunday is to be used. (c) The substitution day was not a public holiday and the listed day is a public holiday, then the next listed preferred day that is not a public holiday is to be used.	
# Occurring in the same week as the substitution day. ## Occurring in the week preceding that in which the substitution day occurs.	

Type 15 – Average Like Day

(g) The *Metering Data Provider* may substitute for the missing or erroneous *metering data* using the **average like day** method, as detailed in the following Table.

Type 15
The *interval metering data* to be substituted will be calculated using an average of the *metering data* from each corresponding interval from the preceding 4 weeks, or part thereof. This averaging technique may be applied in either of the following ways: (a) where the averaged *interval metering data* is used to provide the value for the interval(s) requiring substitution; (b) where the averaged *interval metering data* is used to provide the profile and is scaled to a pre-determined consumption value for the interval(s) to be substituted. Type 15 substitutions must not be used for public holidays.

Type 16 – Agreed Method

(h) Where the *Metering Data Provider* is required to undertake a *metering data* substitution for any period greater than 7 days, consultation and agreement must be obtained from the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider* for the *connection point* as to the *metering data* substitution to be performed. This may include changes to existing *metering data* substitutions for any period which were carried out where the affected parties have directed that as a result of site or customer specific information, the original *metering data* substitutions are in error and a correction is required.

Type 17 – Linear Interpolation

(i) The *Metering Data Provider* may substitute *metering data* for consecutive interval periods up to, but not exceeding 2 hours, by using simple linear interpolation.

Type 18 – Alternate

(j) The *Metering Data Provider* may use an alternate method of *metering data* substitution subject to an agreement between the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider* for the *connection point*. The specifics of this substitution type may involve a globally applied method or a method where an adjusted profile is used to take into account local conditions which affect consumption (for example, local holiday or customer shutdown), or where alternate *metering data* may be able to be used for quality checks and minor adjustments of an estimated profile.

Type 19 – Zero

(k) The *Metering Data Provider* must undertake *metering data* substitutions of 'zero' where:

(1) either the relevant *Network Service Provider* or the *Metering Provider* has informed the *Metering Data Provider* of a de-energised *connection point* or an inactive *meter* and where the consumption is known to be zero; or

(2) *metering data* substitutions are applicable for *connection points* where the financially responsible participant is a *Generator* in accordance with clause S7A.3.4.2(f)(3).

S7A.3.5 Substitution and forward estimation for type 4A and 5 metering installations

S7A.3.5.1 Application of clause S7A.3.5

(a) The substitution and forward estimation types, as detailed within clauses S7A.3.5.2 and S7A.3.5.3, are to be undertaken by *Metering Data Providers* accredited for the collection, processing and delivery of *metering data* from a type 4A or 5 *metering installation*.

(b) For all *metering data* substitutions and forward estimations undertaken under clauses S7A.3.5.2 and S7A.3.5.3, for type 4A or 5 *metering installations*, the *Metering Data Provider* must ensure the selected *metering data* substitution values correctly align with the adjoining *interval metering data* and that any *interval metering data* adjacent to the substituted period is valid.

S7A.3.5.2 Type 4A and 5 substitution and forward estimation rules

(a) The *Metering Data Provider* must carry out all *metering data* substitutions and forward estimations in accordance with this schedule.

(b) The *Metering Data Provider* must ensure that all *metering data* substitutions and forward estimations are replaced with actual *metering data* if and when that *metering data* becomes available.

(c) The *Metering Data Provider* must obtain clear and concise identification as to the cause of any missing or erroneous *metering data* for which *metering data* substitutions are required.

(d) The *Metering Data Provider* must only use type 56 or type 57 substitutions or forward estimations where the historical *metering data* does not support the application of a type 51 or type 52 substitution or forward estimation.

(e) Subject to paragraph (d), the *Metering Data Provider* must only apply the following substitution and forward estimation types:

(1) substitutions may be type 51, 52, 54, 55, 56, 57 or 58;

(2) forward estimations may be type 51, 52, 56, 57 or 58.

(f) The *Metering Data Provider* must notify the relevant *Network Service Provider*, the relevant *retailer* and the financially responsible participant for the *connection point* of any *metering data* substitution or forward estimation within 2 *business days* of the *metering data* substitution or forward estimation being carried out by the *Metering Data Provider*.

(g) *Metering Data Providers* may not perform type 55 substitutions or type 56 substitutions or forward estimations without prior agreement with the affected parties. *Metering Data Providers* may however undertake to change the quality flag to an existing type 55 substitution or type 56 substitution or forward estimation without seeking further agreement from the affected parties.

S7A.3.5.3 Type 4A and 5 substitution and forward estimation types

Type 51 – Previous Years Method (Nearest Equivalent Day or Like Day)

(a) The *Metering Data Provider* must provide a substitution or forward estimation for the *metering data* using the *metering data* from the nearest equivalent day or like day from the same, or similar, *meter* reading period in the previous year. The nearest equivalent day or like day is to be determined from Table A in paragraph (b).

Type 52 – Previous Meter Reading Method (with the Nearest Equivalent Day or Like Day method)

(b) The *Metering Data Provider* must provide a substitution or forward estimation for the *metering data* using the *metering data* from the nearest equivalent day or like day from the previous *meter* reading period. The nearest equivalent day or like day is to be determined from the following Table A.

Type 51 or 52 Table A	
Substitution or Forward Estimation Day	**Nearest Equivalent Day or Like Day (in order of availability)**
Monday	Monday## Monday#
Tuesday	Tuesday## Wednesday## Tuesday# Wednesday#
Wednesday	Wednesday## Tuesday## Thursday## Wednesday# Thursday# Tuesday#
Thursday	Thursday## Wednesday## Tuesday## Thursday# Wednesday# Tuesday#
Friday	Friday## Friday#
Saturday	Saturday## Saturday#
Sunday	Sunday## Sunday#

Metering data substitutions or forward estimations for like day to be as detailed above, unless: (a) no *metering data* is available on the first listed day, then the next listed preferred day is to be used. If there is no other suitable day, or no *metering data* is available on any of the listed days then Type 52 must be used; (b) the substitution or forward estimation day was a public holiday, in which case the most recent Sunday is to be used; or (c) the substitution or forward estimation day was not a public holiday and the listed day is a public holiday, then the next listed preferred day that is not a public holiday, Saturday or Sunday is to be used.
For type 51 utilise *metering data* from the corresponding week in the previous year. ## For type 52 utilise *metering data* from the corresponding week of the previous *meter* reading period. # For type 51 utilise *metering data* from the week preceding the corresponding week in the previous year. # For type 52 utilise *metering data* occurring in the week preceding the corresponding week of the previous *meter* reading period.

(c) Alternatively, the *Metering Data Provider* must provide substitution or forward estimation *metering data* using the average like day method, as detailed in the following Table B.

Type 52 (alternate) **Table B**
The *interval metering data*, for which a substitution or forward estimation is to be provided, will be calculated using an average of the *metering data* from each corresponding interval from the preceding 4 weeks, or part thereof. This averaging technique may be applied in either of the following ways: (a) where the averaged *interval metering data* is used to provide the value for the interval requiring substitution or forward estimation; (b) where the averaged *interval metering data* is used to provide the profile and are scaled to a pre-determined consumption value for the interval(s) that are the subject of substitution or forward estimation. Type 52 substitutions or forward estimations must not be used for public holidays.

Type 54 – Linear Interpolation

(d) The *Metering Data Provider* may substitute *metering data* for consecutive interval periods up to, but not exceeding 2 hours, by using simple linear interpolation.

Type 55 – Agreed Substitution Method

(e) The *Metering Data Provider* may undertake to use another method of *metering data* substitution (which may be a modification of an existing substitution type), where none of the existing substitution types is applicable, subject to an agreement between the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider* for the *connection point*. The specifics of this substitution type may involve a globally applied method.

Type 56 – Prior To First Reading – Agreed Method

(f) Prior to the first actual meter reading and where no previous *metering data* history exists for the *connection point*, the *Metering Data Provider* may provide a substitution or forward estimation for the *interval metering data* using a method agreed between the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider*.

Type 57 – Prior to First Reading – Customer Class Method

(g) Prior to the first actual meter reading and where no previous *metering data* history exists for the *connection point*, the *Metering Data Provider* may provide a substitution or forward estimation for the *metering data* based on the given average daily *load*. The *interval metering data* must be profiled to suit the relevant customer class. *Metering Data Providers* electing to undertake this type of substitution or forward estimation must develop a suite of profiles acceptable to the *Metering Coordinator* for use and application.

Type 58 – Zero

(h) The *Metering Data Provider* must undertake *metering data* substitutions or forward estimations of 'zero' where either the relevant *Network Service Provider* or the *Metering Provider* has informed the *Metering Data Provider* of a de-energised *connection point* or an inactive *meter* and where the consumption is known to be zero.

S7A.3.6 Substitution and forward estimation for type 6 metering installations

S7A.3.6.1 Application of clause S7A.3.6

The *metering data* substitution and forward estimation types as detailed within clauses S7A.3.6.2 and S7A.3.6.3 are to be undertaken by *Metering Data Providers* accredited for the collection, processing and delivery of *metering data* from a type 6 *metering installation*.

S7A.3.6.2 Type 6 substitution and forward estimation rules

(a) The *Metering Data Provider* must carry out all *metering data* substitutions and forward estimations in accordance with this schedule.

(b) The *Metering Data Provider* must replace all *metering data* forward estimations with either actual or substituted *metering data*:

(1) when actual *metering data* covering all or part of the forward estimation period is obtained; or

(2) when the next scheduled meter reading was unable to be undertaken, the *Metering Data Provider* must replace the forward estimated *metering data* with substituted *metering data* with a quality flag of F (final substitution).

(c) Any final substituted *metering data* provided by the *Metering Data Provider* must be re-validated, updated or recalculated by the *Metering Data Provider* when:

(1) the value of the *metering data* obtained at the next actual meter reading is found to be less than the previous final substitution; or

(2) the final substituted value is disputed and following consultation and agreement from the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider* for the *connection point* a new agreed value as per clause S7A.3.6.3(d) (type 64) must be provided.

(d) The *Metering Data Provider* must obtain clear and concise identification as to the cause of any missing or erroneous *metering data* for which *metering data* substitutions are required.

(e) Where the scheduled meter reading frequency is less frequent than monthly, the *Metering Data Provider* may only use a type 62 substitution or forward estimation method when *metering data* from the same, or similar, *meter* reading period last year (i.e. type 61) is not available.

(f) The *Metering Data Provider* may use type 63 substitutions or forward estimations only when the *metering data* from the same, or similar, *meter* reading period last year and *metering data* from the

previous *meter* reading period is not available (i.e. when type 61 and type 62 substitution or forward estimation methods cannot be used).

(g) The *Metering Data Provider* may use type 65 substitutions or forward estimations only when the *metering data* from the same, or similar, *meter* reading period last year or the *metering data* from the previous *meter* reading period is not available (i.e. when type 61 and type 62 substitution or forward estimation methods cannot be used).

(h) The *Metering Data Provider* must only use a type 67 substitution when:

(1) directed by the *Metering Coordinator*;

(2) it is not expressly disallowed in this jurisdiction;

(3) the end-use customer provided *meter* reading meets the validation rules for that data stream; and

(4) the *Metering Data Provider* has no actual *metering data* for the scheduled reading date for this *connection point*.

(i) Subject to paragraphs (e) to (h), the M*etering Data Provider* may apply the following substitution and forward estimation types:

(1) substitutions may be type 61, 62, 63, 64, 65, 67 or 68;

(2) forward estimations may be type 61, 62, 63, 65 or 68.

(j) *Metering Data Providers* may not perform type 64 substitutions without prior agreement with the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider* for the *connection point*. *Metering Data Providers* may however undertake to change the quality flag to an existing type 64 substitution without seeking further agreement from the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider* for the *connection point*.

(k) The *Metering Data Provider* must notify the relevant *Network Service Provider*, the relevant *retailer* and the financially responsible participant for the *connection point* of any *metering data* substitution or forward estimation within 2 *business days* of the *metering data* substitution or forward estimation being carried out by the *Metering Data Provider*.

S7A.3.6.3 Type 6 substitution and forward estimation types

Type 61 – Previous Year Method (Average Daily Consumption Method)

(a) The *Metering Data Provider* must provide a substitution or forward estimation of the *meter* reading by calculating the *energy* consumption as per the following formula:

Energy Consumption = ADC_{LY} * number of days required

where

ADC_{LY} = average daily consumption from the same or similar *meter* reading period last year.

Type 62 – Previous Meter Reading Method (Average Daily Consumption Method)

(b) The *Metering Data Provider* must provide a substitution or forward estimation of the *meter* reading by calculating the *energy* consumption as per the following formula:

Energy Consumption = ADC_{PP} * number of days required.

where

ADC_{PP} = average daily consumption from the previous *meter* reading period.

Type 63 – Customer Class Method

(c) The *Metering Data Provider* must provide a substitution or forward estimation of the *meter* reading by calculating the *energy* consumption as per the following formula:

Energy Consumption = ADC_{CC} * number of days required

where

ADC_{CC} = average daily consumption for this customer class with the same type of usage.

Type 64 – Agreed Method

(d) The *Metering Data Provider* may undertake to use another method of *metering data* substitution (which may be a modification of an existing substitution type), where none of the existing substitution types is applicable, subject to an agreement between the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider* for the *connection point*. The specifics of this substitution type may involve a globally applied method.

Type 65 – ADL Method

(e) The *Metering Data Provider* must provide a substitution or forward estimation of the *meter* reading by calculating the *energy* consumption in accordance with the following formula:

Energy Consumption = Average Daily Load * number of days required.

Type 67 – End-use Customer Reading

(f) Subject to clause S7A.3.6.2(h), the *Metering Data Provider* must substitute any previously substituted or forward estimated *metering data* based directly on an end-use customer provided *meter* reading.

Type 68 – Zero

(g) The *Metering Data Provider* must undertake data substitutions or forward estimations of 'zero' where either the relevant *Network Service Provider* or the *Metering Provider* has informed the *Metering Data Provider* of a de-energised *connection point* or an inactive *meter* and where the consumption is known to be zero.

S7A.3.7 Substitution and forward estimation for type 7 metering installations

S7A.3.7.1 Application of clause S7A.3.7

The substitution and forward estimation types detailed in clauses S7A.3.7.2 and S7A.3.7.3 are to be undertaken by *Metering Data Providers* accredited for the calculation and delivery of *metering data* from a type 7 *metering installation*.

S7A.3.7.2 Type 7 substitution rules

(a) The *Metering Data Provider* must carry out all *metering data* substitutions and forward estimations in accordance with this schedule.

(b) The *Metering Data Provider* must obtain clear and concise identification as to the cause of any missing or erroneous *calculated metering data* for which *metering data* substitutions are required.

(c) The *Metering Data Provider* must ensure that all *metering data* substitutions and forward estimations are based on *calculated metering data* and not on any previous substitutions.

(d) The *Metering Data Provider* must base *calculated metering data* for type 7 *metering installations* on inventory table data as follows:

(1) where the inventory table has not been updated for the period concerned, *calculated metering data* must be based on the most recent available information and provided as a forward estimated value;

(2) where the inventory table is correct for the period concerned, the *calculated metering data* must be provided as an actual value; and

(3) where the inventory table in subparagraph (2) has a subsequent update for the period concerned, the *calculated metering data* must be provided as a substituted value.

(e) Subject to paragraph (d), the *Metering Data Provider* may apply the following substitution and forward estimations types:

(1) substitutions may be type 71, 72, 73, or 74;

(2) forward estimations must be type 75.

(f) The *Metering Data Provider* must notify the relevant *Network Service Provider*, the relevant *retailer* and the financially responsible participant for the *connection point* of any *calculated metering data* substitution by the *Metering Data Provider* within 2 *business days* of the *calculated metering data* substitution being carried out by the *Metering Data Provider*.

(g) The *Metering Data Provider* must flag all *calculated metering data* substitutions as **final** (F).

(h) *Metering Data Providers* may not perform a type 74 substitution without prior agreement with the affected parties.

S7A.3.7.3 Type 7 substitution and forward estimation types

Type 71 – Recalculation

(a) The *Metering Data Provider* must substitute *calculated metering data* with the *calculated metering data* obtained by a recalculation based on the current inventory tables, load tables and on/off tables.

Type 72 – Revised Tables

(b) Where the error in the *calculated metering data* is due to errors in the inventory table, load table or on/off table, the *Metering Data Provider* must substitute *calculated metering data* obtained by a recalculation based on the most recent inventory tables, load tables and on/off tables in which there were no errors.

Type 73 – Revised Algorithm

(c) Where the error in the *calculated metering data* is due to an error in the algorithm, the *Metering Data Provider* must substitute the most recent *calculated metering data* for which there was no error.

Type 74 – Agreed Method

(d) The *Metering Data Provider* may use another method of *calculated metering data* substitution (which may be a modification of an existing substitution type), where none of the existing substitution types is applicable, subject to an agreement between the financially responsible participant, the relevant *retailer* and the relevant *Network Service Provider* for the *connection point*. The specifics of this substitution type may involve a globally applied method.

Type 75 – Existing Table

(e) The *Metering Data Provider* must provide a forward estimate for the *calculated metering data* based on the most recent inventory table information until such time as an updated inventory table is received for the period concerned.

S7A.3.8 General data validation requirements

S7A.3.8.1 Validation requirements for type 1 to 7 metering installations

(a) *Metering Data Providers* are requested to manage systems and processes on the basis that:

(1) stored *metering data* held in the *meter* buffer may be subject to installation measurement error; and

(2) data delivered by reading systems, (for example, Remote reading systems, hand held readers and conversion software) may not be recovered from the field *meters* without corruption.

(b) The market use of validation procedures is of critical importance and may have a direct impact on disputes. It is essential that *Metering Data Providers* comply with these validation procedures and that all *metering data* is subjected to validation prior to delivery to *Registered Participants*.

S7A.3.8.2 Validation of interval metering data alarms for type 1 to 5 metering installations

(a) The *Metering Data Provider* must validate *interval metering data* from type 1, 2, 3, 4, 4A and 5 *metering installations* against the following significant *metering data* alarms when these are provided in the *meter*:

(1) power failure/*meter* loss of supply;

(2) *VT* or phase failure;

(3) pulse overflow;

(4) CRC error;

(5) time tolerance.

(b) Where interval *metering installations* assign alarms to the data channel or the *interval metering data* concerned, the *Metering Data Provider* must process the alarm along with the *metering data* as part of the required *metering data* validation process.

(c) As a minimum requirement, the *Metering Data Provider* must have systems and processes in place that capture *metering data* alarms and process them by exception reporting.

(d) The *Metering Data Provider* must ensure that all *metering data* alarm reports are signed off and dated by the person actioning the data exception report review as part of the validation process.

(e) The *Metering Data Provider* must validate all interval *metering data* with all *metering data* alarms prior to despatch to *Registered Participants*.

(f) All *Metering Data Provider* exception reports must provide, for all instances where the *interval metering data* was found to be corrupted, for example, intervals substituted, an indication of the subsequent actions undertaken by the *Metering Data Provider*.

S7A.3.9 Validation within meter reading process

S7A.3.9.1 Application of clause S7A.3.9

(a) The requirements of clause S7A.3.9.2 are applicable to *Metering Data Providers* accredited for the provision of *metering data services* for type 4A and 5 *metering installations*.

(b) The requirements of clause S7A.3.9.3 are applicable to *Metering Data Providers* accredited for the provision of *metering data services* for type 6 *metering installations*.

S7A.3.9.2 Validations to be performed for type 4A and 5 metering data collection

The *Metering Data Provider* responsible for the collection of *metering data* from type 4A and 5 *metering installations* must undertake the following validations within the *meter* reading process:

(a) The *meter* serial number is correct against the recorded *meter* serial number.

(b) The security of the *metering installation* is intact, for example *meter* seals in place and in good order.

(c) The time synchronisation of the *metering installation* is correct to *ACST* inclusive of any *load* control devices.

S7A.3.9.3 Validations to be performed for type 6 metering data collection

The *Metering Data Provider* responsible for the collection of *metering data* from type 6 *metering installations* must undertake the following validations within the *meter* reading process:

(a) the value of *metering data* from the current *meter* reading ≥ the value of *metering data* from the previous *meter* reading;

(b) the value of *metering data* from the current *meter* reading is valid against an expected minimum value;

(c) the value of *metering data* from the current *meter* reading is valid against an expected maximum value;

(d) the *meter* serial number is correct against the recorded *meter* serial number;

(e) the security of the *metering installation* is intact, for example, *meter* seals in place and in good order;

(f) the time synchronisation of the *metering installation* is correct to *ACST* inclusive of any *load* control devices;

(g) the dial capacity is checked against the recorded dial capacity.

S7A.3.10 Validation of metering data type 1 to 4

S7A.3.10.1 General

(a) Type 1 and 2 *metering installations* must have a *check metering installation* in accordance with the *Rules*.

(b) Type 3, 4, 4A, 5 and 6 *metering installations* are not required to have (but may have) a *check metering installation* in accordance with the *Rules*.

S7A.3.10.2 Application of clause S7A.3.10

(a) The requirements of clause S7A.3.10.3 are applicable to all *Metering Data Providers* accredited for the provision of *metering data services* for type 1, 2, 3 and 4 *metering installations*.

(b) The requirements of clause S7A.3.10.4 are applicable to *Metering Data Providers* accredited for the provision of *metering data* services for type 1, 2, 3 and 4 *metering installations* that have associated *check metering installations* or partial *check metering installations*.

S7A.3.10.3 Validations to be performed for all metering installations

The *Metering Data Provider* must, as a minimum, undertake the following validations on *metering data* within the *metering data services database*:

(a) a check of all *interval metering data* against a nominated maximum value. This validation is to ensure that erroneous *interval metering data* spikes are trapped and substituted. This check may additionally be performed in the polling software;

(b) a check of the maximum value of *active energy* and *reactive energy*. For *current transformer metering installations* the maximum value is to be initially defined by the applied *current transformer* ratio of the *metering installation*. For whole current *metering installations* the maximum rating of the *meter* is to be used;

(c) check against a nominated minimum value or, alternatively, a 'zero' check which tests for an acceptable number of zero interval values per day to be derived from the site's historical *metering data*;

(d) check for null (no values) *metering data* in the *metering data services database* for all *metering* data streams. The aim of this check is to ensure that there is a 100% *metering data* set (and substitution for any missing *interval metering data* is undertaken). The minimum check required is to ensure that there is at least one non-null *active energy* or *reactive energy* value per interval per *metering* data stream;

(e) check for significant *meter* alarms (power failure, *voltage transformer* or phase failure, pulse overflow, CRC error and time tolerance). A process must be in place that captures these significant *meter* alarms within the *metering data* validation process and ensures that any *meter* alarm occurrences are retained. Refer to clause S7A.3.8.2. The *Metering Data Provider* must provide the occurrences of these alarms to relevant *Registered Participants*;

(f) where supported by the *meter(s)*, validation, for a given period, of *interval metering data* by comparison of the totalised *interval energy data* values (accumulation register reading) and the change in the *meter* cumulative registers (*energy* tolerance). It is acknowledged that this check would not identify *current transformer* ratio changes that have occurred after initial commissioning and have not been advised to the *Metering Data Provider*.

S7A.3.10.4 Validations to be performed for metering installations with check metering or partial check metering

(a) The *Metering Data Provider* must undertake the following validations by comparison of the *metering data* and *check metering data* for all *metering installations* that have associated *check metering installations* or partial *check metering installations*:

(1) for *metering installations* where the *check metering installation* duplicates the *metering installation* accuracy level, the *Metering Data Provider* must validate the *metering installation* data streams and *check metering installation* data streams on a per interval basis. The average of the 2 validated *metering data* sets will be used to determine the *energy* measurement;

(2) for installations where the *check metering data* validation requires a comparison based on nodal balance (comparing the sum *energy* flow to the *busbar* against *energy* flow from the *busbar*), the *Metering Data Provider* must construct a validation algorithm within the *metering data services database* that will facilitate this test:

(i) the *Metering Data Provider* must construct a validation algorithm within the *metering data services database* that will facilitate comparison of *interval metering data* for each *energy* flow on a per interval basis;

(ii) the *Metering Data Provider* must conduct an analysis of the historical *metering data* for each *connection point* to ascertain whether error differences in nodal balance are acceptable;

(iii) the *Metering Data Provider* should use this information to refine its validation algorithms to minimise the error difference value for each *connection point*, based on historical *metering data*; and

(iv) the maximum error difference considered acceptable for any *connection point* is 1% on a per interval basis. The *Metering Data Provider* should minimise this value for each *connection point*, based on historical data;

(3) where the *check metering installation* is remote from the *metering installation* (for example, at the other end of a *transmission line* or the other side of a *transformer*), the validation system must employ the following functionality:

(i) the *Metering Data Provider* must construct a validation algorithm within the *metering data services database* that will facilitate comparison of *interval metering data* from the *metering installation* and the *check metering installation* on a per interval basis with adjustment for respective *transformer* or line losses;

(ii) the *Metering Data Provider* must conduct an analysis of the historical *metering data* for each *connection point* to ascertain whether error differences between the *metering data* from the *metering installation* and *check metering installation* is acceptable;

(iii) the *Metering Data Provider* should use this information to refine its validation algorithms to minimise the error difference value for each *connection point*, based on historical *metering data*;

(iv) the maximum error difference considered acceptable for any *connection point* is 5% on a per interval basis. The *Metering Data Provider* should minimise this value for each *connection point*, based on historical data;

(4) for installation *connection points* where SCADA *metering data* is available for the purposes of *metering data* validation, the *Metering Data Provider* must validate the *metering data* by comparison of the *interval metering data* against the SCADA *metering data*. The validation system must employ the following functionality:

(i) the *Metering Data Provider* must construct a validation algorithm within the *metering data services database* that will facilitate comparison of *interval metering data* from the *metering installation* and the SCADA *metering data* on a per interval basis;

(ii) the *Metering Data Provider* must conduct an analysis of the historical *metering data* for each *connection point* to

ascertain whether error differences between the *interval metering data* from the *metering installation* and the SCADA *metering data* is acceptable;

(iii) the *Metering Data Provider* should use this information to refine its validation algorithms to minimise the error difference value for each *connection point*, based on historical *metering data*;

(iv) the *Metering Data Provider* must construct an appropriate validation algorithm as the SCADA *metering data* may be derived from a different measurement point, have a different interval collection period and/or have a different base unit of measurement, (for example, power not *energy* value) with allowances for a larger error of measurement;

(5) the *Metering Data Provider* is only required to undertake validation of *metering data* against the SCADA *metering data* on the primary data channel (that is, only 'B' channel validation for *Generators* and only 'E' channel validation for *loads* such as pumps).

S7A.3.11 Validation of metering data type 4A and 5

S7A.3.11.1 Application of clause S7A.3.11

Metering Data Providers accredited for the provision of *metering data services* for type 5 *metering installations* must apply the requirements of:

(a) clause S7A.3.11.2 for *current transformer* connected type 4A or 5 *metering installations*; and

(b) clause S7A.3.11.3 for whole current type 4A or 5 *metering installations*.

S7A.3.11.2 Validations to be performed for type 4A and 5 metering installations with CTs

The *Metering Data Provider* must, as a minimum, undertake the following validations on *metering data* within the *metering data services database*:

(a) check of all *interval metering data* against a nominated maximum value as follows:

(1) this validation is to ensure that erroneous *interval metering data* spikes are trapped and substituted;

(2) this check may additionally be performed in the collection software;

(3) a check of the maximum value of *active energy*. (Maximum *reactive energy* checks may also be performed as an option);

(4) the maximum value in subparagraph (3) is to be initially defined by the applied *current transformer* ratio of the *metering installation*;

(5) on a per installation basis, the maximum value in subparagraph (3) may be increased to cater for situations where the *Metering Coordinator* has confirmed that the *current transformer* is overloaded on a short-term basis;

(b) check against a nominated minimum value or, alternatively, a 'zero' check which tests for an acceptable number of zero interval values per day to be derived from the site's historical *metering data*;

(c) check for null (no values) *metering data* in the *metering data services database* for all *metering* data streams as follows:

(1) the aim of this check is to ensure that there is a 100% *metering data* set (and substitution for any missing *interval metering data* is undertaken);

(2) the minimum check required is to ensure that there is at least one non-null *active energy* or *reactive energy* value per interval per *metering* data stream;

(d) check for significant *meter* alarms (power outage or power failure, *VT* or phase failure, pulse overflow, CRC error and time tolerance) as follows:

(1) a process must be in place that captures these significant *meter* alarms within the *metering data* validation process and ensures that any *meter* alarm occurrences are retained. Refer to clause S7A.3.8.2;

(2) the *Metering Data Provider* must provide the occurrences of these *meter* alarms to relevant *Registered Participants*;

(e) where supported by the *meter*(*s*), validation, for a given period, of *interval metering data* by comparison of the totalised *interval energy data* values (accumulation register reading) and the change in the *meter* cumulative registers (*energy* tolerance). It is acknowledged that this check would not identify *current transformer* ratio changes that have occurred after initial commissioning and have not been advised to the *Metering Data Provider*;

(f) a check of the *metering data* for continuity and reasonability over the *meter* reading period as follows:

(1) check that no gaps in the *metering data* exist;

(2) check that *metering data* for the expected period has been delivered based on the expected reading date.

S7A.3.11.3 Validations to be performed for whole current type 4A and 5 metering installations

The *Metering Data Provider* must, as a minimum, undertake the following validations on *metering data* within the *metering data services database*:

(a) check of all *interval metering data* against a nominated maximum value as follows:

(1) this validation is to ensure that erroneous *interval metering data* spikes are trapped and substituted;

(2) this check may additionally be performed in the collection software;

(3) a check of maximum value of *active energy*. (Maximum *reactive energy* checks may also be performed as an option). The maximum value is to be initially set to the rating of the *meter*;

(b) check for null (no values) *metering data* in the *metering data services database* for all *metering* data streams as follows:

(1) the aim of this check is to ensure that there is a 100% *metering data* set (and substitution for any missing *metering data* is undertaken);

(2) the minimum check required is to ensure that there is at least one non-null *active energy* or *reactive energy* value per interval per *metering* data stream;

(c) check for significant *meter* alarms (*voltage transformer* or phase failure, pulse overflow, CRC error and time tolerance) in accordance with subparagraphs (1) and (2). The *Metering Data Provider* is not required to validate the *interval metering data* for power outage or power failure alarms:

(1) a process must be in place that captures these significant *meter* alarms within the *metering data* validation process and ensures that any *meter* alarm occurrences are retained. Refer to clause S7A.3.8.2; and

(2) the *Metering Data Provider* must provide the occurrences of these *meter* alarms (inclusive of the occurrences of power outage or power failure alarms) to relevant *Registered Participants*;

(d) where supported by the *meter(s)*, validation, for a given period, of *interval metering data* by comparison of the totalised *interval energy data* values (accumulation register reading) and the change in the *meter* cumulative registers (*energy* tolerance);

(e) a check of the *metering data* for continuity and reasonability over the *meter* reading period as follows:

(1) check that no gaps in the *metering data* exist;

(2) check that *metering data* for the expected period has been delivered based on the expected reading date.

S7A.3.12 Validation of metering data type 6

S7A.3.12.1 Application of clause S7A.3.12

The requirements of clause S7A.3.12.2 are applicable to *Metering Data Providers* accredited for the provision of *metering data services* for type 6 *metering installations*.

S7A.3.12.2 Validations to be performed for type 6 metering installations

The *Metering Data Provider* must undertake the following validations on *metering data* within the *metering data services database*:

(a) check against a nominated minimum value of *metering data* collected from the *metering installatio*n;

(b) check against a nominated maximum value of *metering data* collected from the *metering installation*. This is to be applied to both the *metering data* collected from the *metering installation* and the calculated *energy* consumption values;

(c) the current value of *metering data* collected from the *metering installation* ≥ previous value of *metering data* collected from the *metering installation*.

(d) the current value of *metering data* collected from the *metering installation* is numeric and ≥ 0;

(e) the current date that *metering data* is collected from the *metering installation* > the previous date that *metering data* was collected from the *metering installation*;

(f) check for null (no values) *metering data* in the *metering data services database* for all *metering* data streams. The aim of this check is to ensure that there is a 100% *metering data* set (and substitution for any missing *metering data* is undertaken).

S7A.3.13 Validation of metering data type 7

S7A.3.13.1 Application of clause S7A.3.13

The requirements of clause S7A.3.13.2 are applicable to *Metering Data Providers* accredited for the provision of *metering data services* for type 7 *metering installations*.

S7A.3.13.2 Validations to be performed for type 7 metering installations

The *Metering Data Provider* must undertake the following validations on *calculated metering data* within the *metering data services database*:

(a) check against a nominated maximum calculated *metering data* value;

(b) *calculated metering data* value is numeric and ≥ 0;

(c) check for null (no values) *calculated metering data* in the *metering data services database* for all *metering* data streams. The aim of this check is to ensure that there is a 100% *calculated metering data* set (and substitution for any missing *calculated metering data* has been undertaken);

(d) check the inventory tables, load tables and on/off tables with a process approved by the *Metering Coordinator* to ensure that the correct version of the tables is being used for the production of *calculated metering data*;

(e) check against a nominated minimum value or alternatively a 'zero' check which tests for an acceptable number of zero interval values per day;

(f) *calculated metering data* date > previous *calculated metering data* date.

S7A.3.14 Unmetered loads – Determination of metering data

S7A.3.14.1 Requirement to produce calculated metering data: Load table

(a) The load table must set out:

(1) the device *load* (in watts) for controlled unmetered *loads* for use in calculating *interval metering data* for each device type in accordance with clause S7A.3.14.2. The *load* per device type must be the wattage of the device and associated control gear; and

(2) the annual *energy* consumption for other unmetered *loads* that do not have constant *load*, and where *energy* is calculated based on annual *energy* consumption. The annual *energy* consumption is used to calculate the calculated device wattage (in watts) which is used to calculate the *interval metering data* for each device type as follows:

$$\left(\text{Calculated device wattage}\right)_i = \frac{\left(\text{device annual energy consumption}\right)_i}{365 * 24}$$

Where i = device type i.

(b) New device types must be included in the load table prior to installation of the device.

(c) Proposals to add a new *load* value for an unmetered device type to the load table must be accompanied by a relevant unique description of the device and evidence of the device *load* or *energy* consumption whichever the case may be. Wherever possible, the device *load* should be determined from measurement tests conducted by a *NATA* accredited laboratory or overseas equivalent.

S7A.3.14.2 Controlled unmetered loads

(a) This clause is applicable to all agreed "controlled unmetered *loads*".

Metering data calculation

(b) The *Metering Coordinator* must ensure that the *interval metering data* for controlled unmetered *loads*, which have been classified as a type 7 *metering installation*, are calculated in accordance with the following algorithm:

Half-hourly *metering data* for *recording interval* j for *NMI* (in watt hours) =

$$\frac{\sum_{i=1}^{n}(k) * (\text{Device wattage})_i * (\text{Device count for NMI})_i * (\text{Period load is switched on})_j * (\text{Recording interval})}{60}$$

where:

i = device type

j = *recording interval*

k = proportion of device attributable to that *NMI*

Recording interval is period in minutes.

Device wattage is determined from the load table.

Device count is determined from the inventory table.

Period *load* is switched on is determined from the on/off table.

Inventory table

(c) The following applies in relation to inventory tables:

(1) for each *NMI*, a separate inventory table is required that identifies each device type that forms part of the *NMI load* and for each device type lists:

(i) the device type;

(ii) the form of on/off control – photoelectric cell control, timer control, ripple control or other control;

(iii) if timer control or ripple control, the on/off times for the controlling device;

(iv) if other control, the on/off times;

(v) if a device is shared with another *NMI*, the proportion of *load* that is agreed by relevant financially responsible

participants to be attributable to that *NMI* (k). Each k factor will be less than 1. The sum of the k factors for a shared device across each respective *NMI* must be equal to 1;

(vi) if a device is not shared with another *NMI*, the k factor must be equal to 1;

(vii) number of such devices installed;

(viii) effective start date – the first day on which that record in the inventory table is to be included in the calculation of *metering data* for that *NMI*;

(ix) effective end date – the last day on which that record in the inventory table is to be included in the calculation of *metering data* for that *NMI*; and

(x) last change date – the date that record in the inventory table was most recently created or modified.

(2) each device in the inventory table is a unique combination of physical hardware, time control classification and shared portion. For example, if a device is shared with another *NMI*, the individual portions of the device(s) must be included in the inventory table as a separate device type on each *NMI*;

(3) each *Metering Coordinator* must develop the initial inventory table for the *NMIs* for which it is responsible. The initial inventory table must be agreed by the relevant financially responsible participants and or the relevant end-use customer;

(4) each *Metering Coordinator* must use reasonable endeavours to update the inventory table, for the *NMIs* for which it is responsible, on at least a monthly basis for any additions, deletions and modifications to ensure that the accuracy requirements in clause S7A.3.3.2(g) are met. Such additions, deletions or modifications to the inventory table may only be made on a retrospective basis where:

(i) agreed by the *Metering Coordinator* and the relevant financially responsible participants; or

(ii) necessary to comply with clause 7A.7.4.

(5) the *Metering Coordinator* must communicate any material changes to the inventory table to the relevant financially responsible participants;

(6) the *Metering Coordinator* must provide the inventory table to the relevant financially responsible participants when requested.

On/off table

(d) In relation to the on/off table, the form of on/off control may be:

(1) photoelectric cell control;

(2) timer control or ripple control; or

(3) other control.

Photoelectric cell control

(e) In relation to photoelectric cell control, the *Metering Coordinator* must ensure that the appropriate sunset times and sunrise times are obtained from the Australian Government Geoscience Australia website (www.ga.gov.au/geodesy/astro/sunrise.jsp), based on the longitude and latitude of the relevant town and *Australian Central Standard Time*.

Timer control

(f) The following applies in relation to timer control:

(1) if the on/off times for a device are controlled by a timer or ripple injection system, then:

(i) on time = ON time set on timer or ripple injection system; and

(ii) off time = OFF time set on timer or ripple injection system;

(2) the *Metering Coordinator* must ensure that the period that the *load* is switched on during a *recording interval* is calculated as follows:

Recording interval	Period load is switched on
For the *recording intervals* commencing after on time and finishing prior to off time	Period *load* is switched on = 1
For the *recording intervals* commencing after off time and finishing prior to on time	Period *load* is switched on = 0
For the *recording interval* during which the on time occurs	(Period *load* is switched on) = $\frac{(\text{End time of recording interval}) - (\text{On time})}{30}$
For the *recording interval* during which the off time occurs	(Period *load* is switched on) = $\frac{(\text{Off time}) - (\text{Start time of recording interval})}{30}$

Other control

(g) The following applies in relation to other control:

(1) where the on/off times for a device are not in accordance with paragraphs (e) or (f), the following alternative forms of control may be used:

(i) on time = sunset time + ON delay or ON time set on timer or ripple injection system;

(ii) off time = sunrise time + OFF delay or OFF time set on timer or ripple injection system or a fixed duration after ON time;

(2) where sunrise or sunset times are used, the time is determined in accordance with paragraph (e);

(3) the *Metering Coordinator* must ensure that the period that the load is switched on during a *recording interval* is calculated as follows:

Recording interval	Period load is switched on
For the *recording intervals* commencing after on time and finishing prior to off time	Period *load* is switched on = 1
For the *recording intervals* commencing after off time and finishing prior to on time	Period *load* is switched on = 0
For the *recording interval* during which the on time occurs	(Period *load* is switched on)= $\frac{(\text{End time of recording interval}) - (\text{On time})}{30}$
For the *recording interval* during which the off time occurs	(Period *load* is switched on)= $\frac{(\text{Off time}) - (\text{Start time of recording interval})}{30}$

S7A.3.14.3 Other unmetered loads

(a) This clause is applicable to all agreed "other unmetered *loads*".

Energy calculation

(b) The *Metering Coordinator* must ensure that the *interval metering data* for other unmetered *loads*, which have been classified as a type 7 *metering installation*, is calculated in accordance with the following algorithm:

$$\frac{\sum_{i=1}^{n}(k) * (\text{Device wattage})_i * (\text{Device count for NMI})_i * (\text{Period load is switched on})_j * (\text{Recording interval})}{60}$$

Inventory table

(c) The following applies in relation to inventory tables:

(1) for each *NMI*, a separate inventory table is required that identifies each device type which forms part of the *NMI load* and for each device type lists:

(i) the device type;

(ii) the form of on/off control (24 hours per day);

(iii) if a device is shared with another *NMI*, the proportion of *load* that is agreed by relevant financially responsible participants to be attributable to that *NMI* (k). Each k factor will be less than 1. The sum of the k factors for a shared device across each respective *NMI* must be equal to 1;

(iv) if a device is not shared with another *NMI*, the k factor must be equal to 1;

(v) number of such devices installed;

(vi) effective start date – the first day on which that record in the inventory table is to be included in the calculation of *metering data* for that *NMI*;

(vii) effective end date – the last day on which that record in the inventory table is to be included in the calculation of *metering data* for that *NMI*; and

(viii) last change date – the date that record in the inventory table was most recently created or modified;

(2) each device in the inventory table is a unique combination of physical hardware, time control classification and shared portion. For example, if a device is shared with another *NMI*, the individual portions of the device(s) must be included in the inventory table as a separate device type on each *NMI*;

(3) each *Metering Coordinator* must develop the initial inventory table for the *NMIs* for which it is responsible. The initial inventory table must be agreed by the relevant financially responsible participants and the relevant end-use customer;

(4) each *Metering Coordinator* must use reasonable endeavours to update the inventory table, for the *NMIs* for which it is responsible, on at least a monthly basis for any additions, deletions and modifications to ensure that the accuracy requirements in clause S7A.3.3.2(g) are met. Such additions, deletions or modifications to the inventory table may only be made on a retrospective basis where:

(i) agreed by the *Metering Coordinator* and the relevant financially responsible participants; or

(ii) necessary to comply with clause 7A.7.4.

The *Metering Coordinator* must communicate any material changes to the inventory table to the relevant financially responsible participants. The *Metering Coordinator* must provide the inventory table to relevant financially responsible participants when requested.

On/off table

(d) For the on/off table, other unmetered *loads* are assumed to operate 24 hours per day. For each *recording interval* period *load* is switched on = 1.

Schedule 7A.4 Service level procedures

Part A Metering Providers

S7A.4.1 General

S7A.4.1.1 Application

Part A of this schedule details the requirements that *Metering Providers* must comply with when undertaking installation, provision and maintenance services for type 1, 2, 3, 4, 4A, 5 and 6 *metering installations*.

S7A.4.1.2 Purpose

(a) Part A of this schedule details the obligations, technical requirements, measurement process and performance requirements that are to be performed, administered and maintained by a *Metering Provider*.

(b) Part A of this schedule details the obligations and technical/operational requirements in the provision, installation and maintenance of the *metering installation* by a *Metering Provider.*

(c) Part A of this schedule relates to category B *Metering Providers*, which are *Metering Providers* who are accredited to undertake the provision, installation and maintenance of various *metering installation* types as stipulated.

(d) Part A of this schedule sets out minimum requirements for *Metering Providers*.

S7A.4.1.3 Interpretation

(a) In this schedule:

reasonable endeavours, in relation to a person, means the person must act in good faith and do what is reasonably necessary in the circumstances.

(b) In Part A of this schedule diagrams are provided as an overview. If there are ambiguities between a diagram and the text, the text takes precedence.

S7A.4.2 Metering Provider obligations

S7A.4.2.1 Obligations

(a) All category B *Metering Providers* must comply with Part A of this schedule.

(b) The *Metering Provider* has responsibility for the provision of metering provision services for all *connection points* for which they are appointed *Metering Provider* by a *Metering Coordinator*.

S7A.4.3 Metering Provider services

S7A.4.3.1 Services

The *Metering Provider* is responsible for the provision of metering provision services, including but not limited to:

(a) maintaining the ongoing *metering installation* compliance with the *Rules*;

(b) the provision and maintenance of physical *metering installation* security controls;

(c) the provision, installation and maintenance of the *metering installation*;

(d) the maintenance of *metering installation* password security; and

(e) the development and maintenance of a Metering Asset Management Plan.

S7A.4.3.2 Maintenance of metering installations

(a) The *Metering Coordinator* must ensure that all facets of the *metering installation* are maintained.

(b) For *regulatory control periods* subsequent to the *1st regulatory control period*, the *Metering Coordinator* may appoint any number of *Metering Providers* to undertake the different components of work for each *metering installation* (for example, to design the installation; install *instrument transformers*; install *meters*; install data communications; conduct tests; conduct ongoing maintenance).

Note:

The application of this clause will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

S7A.4.3.3 Use of contractors

(a) If a *Metering Provider* engages a contractor to assist it to perform any of its obligations under the *Rules* (including this schedule) (see clause 7A.4.1(d)), the *Metering Provider* must ensure that processes are in place to certify that all work performed by the contractor on behalf of the *Metering Provider* is compliant with the *Rule*s (including this schedule).

(b) While the *Metering Provider* may contract out *metering* work, the *Metering Provider* may not delegate any of its responsibilities under the *Rules*. The *Metering Provider* is responsible and liable for all acts and omissions of the contractor as if they were acts and omissions of the *Metering Provider*.

S7A.4.3.4 Insurance

(a) A *Metering Provider* must effect and maintain:

(1) general liability insurance; and

(2) for a period of 7 years after the person ceases to be a *Metering Provider*, professional indemnity insurance, for an amount of not less than $10,000,000 total, covering potential claims against the *Metering Provider*.

(b) The *Metering Provider* must provide the *Utilities Commission* with certified copies of the insurance policy required under Part A of this schedule, when requested.

S7A.4.3.5 Professionalism

(a) *Metering Providers* must ensure that sufficient competent people are recruited and maintained in order to meet the *Metering Provider's* obligations and performance requirements.

(b) *Metering Providers* must use *reasonable endeavours* to establish the necessary working relationships with other *Metering Providers* and *Metering Data Providers* to ensure that matters affecting customer transfer, *meter* installation, provision and maintenance, and maintenance of *NT NMI data* are achieved proficiently.

S7A.4.4 Performance

S7A.4.4.1 Metering Provider processes

(a) For the services that they provide, *Metering Providers* must have processes and systems in place in the following areas:

(1) purchasing of *metering* equipment;

(2) provision of *metering* equipment;

(3) installation of *metering* equipment;

(4) commissioning and verification of *metering* equipment;

(5) testing and inspection of *metering* equipment;

(6) maintenance of *metering* equipment;

(7) programming of *metering* equipment;

(8) asset management planning;

(9) security of *metering installations* and *energy data*;

(10) *NT NMI data* management;

(11) quality system certification;

(12) training and maintenance of resource skills.

(b) The *Metering Provider* must also have processes and systems in place for review of the matters referred to in paragraph (a) in the

event of a change in the *Rules* or an instrument made under or for the purposes of the *Rules*.

S7A.4.4.2 Connection point transfer

The *Metering Provider* is required to facilitate the timely commissioning of the *metering installation* and the confirmation of the *metering installation* details.

S7A.4.4.3 Metering Provider interfaces

(a) Category A *Metering Providers* are *Metering Providers* who are accredited to undertake installation only of type 5 and 6 whole current *meters*.

(b) For *regulatory control periods* subsequent to the *1st regulatory control period*, where a category A *Metering Provider* is appointed by the *Metering Coordinator* to perform installation work only, the category B *Metering Provider* must, on behalf of the *Metering Coordinator*, ensure that processes are in place to ensure that interfaces with the category A *Metering Provider* are established to ensure that:

(1) provision of *metering* equipment is undertaken in a timely manner;

(2) transition of relevant *metering installation NT NMI data* information into systems and processes are carried out; and

(3) the *metering* equipment is maintained by inclusion in the relevant test strategy within the associated Metering Asset Management Plan.

Note:

The application of this clause will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

S7A.4.4.4 Compliance

While the overall responsibility lies with the *Metering Coordinator*, *Metering Providers* are required to provide copies of test or commissioning details to any new *Metering Provider* or *Metering Coordinator* upon request.

S7A.4.4.5 General commissioning requirements

(a) The *Metering Provider* must use *reasonable endeavours* to ensure that the *metering installation* is compliant and carry out the *metering installation* commissioning checks and other requirements specified in paragraphs (b) to (r).

Wiring checks

(b) The *Metering Provider* must verify that the:

(1) *metering installation* equipment and associated wiring is correct;

(2) *metering installation* complies with manufacturer requirements, relevant standards and jurisdictional documents;

(3) all wiring terminations are tight and correctly terminated;

(4) cable type and sizes used are correct; and

(5) phase sequence and polarity are correct.

Accuracy requirements

(c) The *Metering Provider* must establish that the accuracy class of all the *metering* equipment associated with a *metering installation* and any documentation verifying the errors of *current transformers*, *voltage transformers* and *meters* show compliance with the *Rules*. The name plate data reflects the design accuracy class of the *metering* equipment.

(d) The *Metering Provider* must carry out all reasonable directions of the *Metering Coordinator* to establish *metering installation* compliance.

Multiplier validation

(e) For *metering installations* that utilise *instrument transformers*, (*voltage transformers* and/or *current transformers*), the *Metering Provider* must verify the connected ratios of all *instrument transformers* on site and calculate the constant to be applied to the *meter* readings and *metering data*.

Metering transformer burden measurement

(f) For *metering installations* that utilise *instrument transformers*, (*voltage transformers* and/or *current transformers*), the *Metering Provider* must undertake measurements of the actual secondary burdens of the *instrument transformers* pertaining to the *metering installation* to ensure that the burdens applied to the *instrument transformers* are within the rated burden specified on the nameplate.

Phase sequence

(g) The *Metering Provider* must verify that the *metering installation* voltage phase sequence relationships are correct unless the *Metering Provider* can verify the accuracy of the *meter* type when non-standard phase sequence is applied.

Vector relationships

(h) For *metering installations* that utilise *instrument transformers*, (*voltage transformers* and/or *current transformers*), the *Metering Provider* must verify that the combined current and voltage phase relationships at the *meter* terminals are correct.

Meter validation

(i) For all *metering installation* types, the *Metering Provider* must verify that the *meter* programming parameters, display and error functions are all correct in accordance with manufacturer specifications. This includes the measurement of the forward rotation of energy applied to the *meter*, and verifying that the correct pulse rates (for interval meters) have been programmed into the *meter* for the best possible resolution of *energy data* measurement and recording.

(j) For *metering installations* that involve the use of *instrument transformers*, the *Metering Provider* must validate register readings to the measured customer *load* where applicable and possible. The validation process may also include a timing check by comparing the output on the *meter* display and/or pulse indicators against *load* and time.

(k) For sites involving *remote acquisition* of *metering data*, the *Metering Provider* must have processes as follows in place to aid in the validation of *interval metering data* with the *Metering Coordinator* and/or *Metering Data Provider*:

(1) these processes must confirm that remote communication with the *meter* is established and is of sufficient quality to support communication and *metering data* transfer;

(2) this verification is to be done at the time of *meter* installation, *meter* change, *meter* test or *meter* reprogramming;

(3) the *Metering Provider* must also aid any end to end verification of the measured and stored *interval metering data* within the *meter's* buffer with the *interval metering data* value(s) as remotely read and stored within the *Metering Data Provider's metering data services database*; and

(4) the *Metering Provider* must have processes in place to aid in the validation of *metering data* with the *Metering Coordinator* and/or *Metering Data Provider*. Where a validation failure has occurred, the *Metering Provider* is required to have a process in place to verify *metering installation* compliance.

Sites that cannot be validated

(l) For sites that cannot be fully validated, the *Metering Provider* must inform the *Metering Data Provider* and the *Metering Coordinator* that the *metering installation* cannot be fully validated. The *Metering Provider* is required to liaise with the *Metering Coordinator* to undertake other alternative measurements and commissioning checks that enable the *Metering Coordinator* to agree that the *metering installation* is compliant.

(m) The *Metering Provider* must undertake one or more of the following checks:

(1) utilisation of *meter energy* measurement to calculate *load*/demand and that this value is reflective of expected magnitude;

(2) use of a dummy load or phantom load box to verify correct *meter energy* measurement;

(3) wiring checks which visibly verify correct connection and phase relationships of voltage and current circuits;

(4) compare *meter* measurement of *energy*/*load* with an alternative measurement of demand, current etc.

Alarm settings

(n) Where the *meter* supports alarm functionality as an attachment to the *interval metering data*, the *Metering Provider* is required to enable the following alarms:

(1) power failure;

(2) voltage failure;

(3) pulse or interval data overflow;

(4) checksum error;

(5) time reset.

(o) Where there are alarm sensitivity settings, these must be set at appropriate levels to ensure meaningful alarm outputs (for example, for contestable customer supplies a Voltage drop of -15% is nominally appropriate).

In situ testing of type 1, 2, 3 and 4 metering installations

(p) Where a *Metering Provider* undertakes to perform in situ testing of a type 1, 2, 3 and 4 *metering installation*, the *Metering Provider* must note the start and end times of the *meter* test and any applicable register readings and record these on the relevant test sheet.

(q) On completion of the tests the *Metering Provider* must ensure that the following is undertaken before the *Metering Provider* leaves the site:

(1) the *metering installation* is commissioned into service and all connections are correct, tight and that the measurement system is operating correctly. Adherence to this clause, is required;

(2) the *Metering Provider* contacts the relevant *Metering Data Provider* and verifies that the *Metering Data Provider* still has operational communications with the *meter* and that the communications are of sufficient quality to support *metering data* transfer; and

(3) the *Metering Provider* informs the *Metering Data Provider* of the start and end times of the test and the *metering* details concerned. (This is to facilitate the *Metering Data Provider*

validating and substituting out any erroneous *metering data* as a result of the *meter* test.)

(r) On completion of the *metering installation* test, the *Metering Provider* must provide to the relevant *Metering Data Provider*, by formal communication, confirmation of the details and test times mentioned in paragraphs (p) and (q).

S7A.4.4.6 Meter change process

(a) The *Metering Provider* must only undertake *meter* churn when it is authorised to do so by a *Metering Coordinator*.

(b) Prior to conducting *meter* churn from a type 1, 2, 3 or 4 *metering installation* to a type 1, 2, 3, 4, 4A or 5 *metering installation* the *Metering Provider* must use *reasonable endeavours* to:

(1) provide the current *Metering Data Provider* with details of the new *Metering Data Provider* and new *Metering Provider*; and

(2) request and verify that the current *Metering Data Provider* undertakes a final reading to recover any *metering data* since the *meter* was last interrogated.

(c) Prior to conducting *meter* churn from a type 4A, 5 or 6 *metering installation* to a type 1, 2, 3, or 4 *metering installation*, the *Metering Provider* must use *reasonable endeavours* to contact the current *Metering Provider* and/or relevant *Network Service Provider* and provide confirmation that a *meter* change is to be carried out.

(d) On completion of the installation of the *metering installation* the *Metering Provider* must ensure that the following is undertaken before the *Metering Provider* leaves the site:

(1) note the *metering installation* details, times, and any accumulation readings on the relevant Meter Change Installation Notice or site commissioning test sheet;

(2) the *metering installation* is commissioned into service and all connections are correct, tight and that the measurement system is operating correctly. Adherence to clause S7A.4.4.5 is required;

(3) for a site remaining a type 1, 2, 3 or 4 *metering installation*, use *reasonable endeavours* to contact the new *Metering Data Provider* to verify:

(i) that there are operational communications with the *metering installation*;

(ii) that the communications are of sufficient quality to support the *remote acquisition* of *metering data*; and

(iii) the commissioning time of the *metering installation*.

(e) The *Metering Provider* is required to provide to the new *Metering Data Provider* formal confirmation of the above *metering installation* details and commissioning times.

S7A.4.4.7 Meter change information requirements

The *Metering Provider* must provide, where applicable to the specified *metering installation*, the following information in an electronic format to the *Metering Coordinator*, relevant financially responsible participants or any other *Metering Providers* and *Metering Data Providers* who have a right of access to the information, as a minimum, pertaining to any *metering installation* changes.

Equipment installation

Information Category	Details
NMI details	*NMI* Check Sum
NMI address	Street State Postcode
Registered Participants	financially responsible participant *Metering Coordinator* relevant *retailer* *Metering Provider* *Metering Data Provider* relevant *Network Service Provider*
Modem details	Modem Make Modem Type Modem Plant Modem Phone Modem Baud Modem Carrier
Meter details	Meter Make Meter Type Meter Rating Meter Serial Number Meter Pulse Rate Meter Multiplier

Information Category	Details
	Unit Address
	Load Survey Interval
	Programmed Current Transformer Ratio
	Programmed Voltage Transformer Ratio
Current Transformer(s)	Current Transformer Make
	Current Transformer Type
	Current Transformer Class
	Current Transformer Ratios
	Current Transformer Tap
	Current Transformer Rated Burden
	Current Transformer Serial Number Phase 1
	Current Transformer Serial Number Phase 2
	Current Transformer Serial Number Phase 3
	Current Transformer Secondary Wiring Size
	Current Transformer Secondary Wiring Route Length
	Primary Current
	Secondary Current
Voltage Transformer(s)	Voltage Transformer Make
	Voltage Transformer Type
	Voltage Transformer Class
	Voltage Transformer Ratios
	Voltage Transformer Tap
	Voltage Transformer Rated Burden
	Voltage Transformer Serial Number Phase 1
	Voltage Transformer Serial Number Phase 2
	Voltage Transformer Serial Number Phase 3
	Voltage Transformer Secondary Wiring Size
	Voltage Transformer Secondary Wiring Route Length

Equipment removal

Information Category	Details

Information Category	Details
NMI details	*NMI* Check Sum
NMI address	Street State Postcode
Registered Participants	Old *Metering Data Provider* ID Old *Metering Provider* ID
Meter details	Meter Make(s) Meter Type(s) Meter Rating Meter Serial number(s)
Current transformer(s)	Removed Current Transformer Serial number(s) Removed Current Transformer Type(s) Removed Current Transformer Make(s)
Voltage Transformer(s)	Removed Voltage Transformer Serial Number(s) Removed Voltage Transformer Type(s) Removed Voltage Transformer Make(s)
Removal details	Service Order Number Work Order Number Meter Remove Date Meter Remove Time
Meter readings	Meter Reading(s) Data downloaded (Type 1, 2, 3 and 4) Date/time of download

Forms

Samples of the following forms appear at Attachment 1 of "Service Level Procedure: Metering Provider Services Category B for Metering installation Types 1, 2, 3, 4, 5 and 6", version 4.4 as in force on 1 September 2015, published by *AEMO*:

- Meter Read and Meter Change Sheet
- LV Metering Installation Sheet

- LV Metering Commissioning Sheet
- HV Metering Installation Sheet
- HV Metering Commissioning Sheet

S7A.4.4.8 Asset management plans

The *Metering Provider* must develop, maintain and execute a Metering Asset Management Plan (**MAMP**) for all *metering installation* assets for which the *Metering Provider* has been engaged to provide maintenance and testing services by the *Metering Coordinator*, which is to be approved by the *Metering Coordinator*.

S7A.4.4.9 Telecommunications

(a) The *Metering Provider* must notify the *Metering Data Provider* and *Metering Coordinator* if communications equipment is to be temporarily disconnected such that it may affect the *remote acquisition* of *metering data*.

(b) The *Metering Provider* must assist the *Metering Coordinator* and/or the *Metering Data Provider* with the collection of *metering data* from the *metering installation* where *remote acquisition* becomes unavailable.

(c) Paragraph (b) does not apply in relation to instances of a *telecommunication network* failure where the logistics of collection of *metering data* from significant volumes of *metering installations* is not practical. However, this does not remove the obligation of the *Metering Coordinator* to resolve the instance of the *telecommunication network* failure.

S7A.4.4.10 Systems

Systems procured or used by the *Metering Provider* to provide the services specified in Part A of this schedule must be maintained in reasonable working condition in an accessible manner.

S7A.4.4.11 Disaster recovery

(a) The *Metering Provider* must have a 'Disaster Recovery Plan' in place that, in the event of an IT system failure, the system is returned to normal operational service within 5 *business days*. Recovery to operational service is measured by evidence that the software and the most recent back-up of data has been restored to operational service within the 5 *business days*.

(b) It is a requirement of the *Metering Provider* to demonstrate evidence to the effect that:

(1) detailed documentation of a Disaster Recovery Plan is maintained fully up-to-date. The documentation to show revisions and 'last check date';

(2) the Disaster Recovery Plan is witnessed and dated at least annually by the *Metering Provider* as being current for the systems and processes in place; and

(3) the Disaster Recovery Plan has been subjected to an annual end-to-end test that facilitates both a 'fail-over' from and 'recovery' back to the production system.

S7A.4.4.12 Metering installation security

The *Metering Provider* must not remove an asset if there is evidence of tampering or electricity theft. The *Metering Provider* must inform the existing *Metering Data Provider* and/or *Metering Coordinator*, and the *metering installation* must remain as is until the *Metering Coordinator* has investigated. The new *metering* equipment can only be installed once the *Metering Coordinator* has given permission.

S7A.4.4.13 Safety

(a) *Metering Providers* must maintain appropriate levels of OH&S policies according to jurisdictional and legislative requirements. Minimum requirements include the identification of risks and hazards and application of control measures prior to any work being performed on site.

(b) It is expected that relevant site safety information is openly shared amongst *Metering Providers*, including the dispatch of safety alerts where applicable.

(c) The *Metering Provider* must satisfy or perform any site induction requirements as required by the *Metering Coordinator* or financially responsible participant.

S7A.4.4.14 Work standards

(a) The *Metering Provider* must comply with the current:

(1) *Australian Standard* 3000 Wiring Rules;

(2) *Telecommunications Cabling Provider Rules 2014* (Cth) (where applicable); and

(3) jurisdictional and *Network Service Provider* requirements.

(b) If the *Metering Provider* identifies a *metering installation* that does not comply with paragraph (a), it is expected that the *Metering Provider* will inform the financially responsible participant, *Metering Coordinator,* appropriate jurisdictional administrator and/or the relevant *Network Service Provider* (as appropriate).

S7A.4.4.15 Time synchronisation

The *Metering Provider* when installing, testing and maintaining the *metering installation* must ensure the time setting of the *metering installation* is referenced to *Australian Central Standard Time*.

Part B Metering Data Provider

S7A.4.5 General

S7A.4.5.1 Definitions

In Part B of this schedule:

collect, collection, collected means a process undertaken by the *Metering Data Provider* to obtain *metering data* from a *meter* or *metering installation*.

data stream has the meaning given in clause S7A.3.1.3 of schedule 7A.3.**estimate, estimation, estimated** has the meaning given in clause S7A.3.1.3 of schedule 7A.3.

Service Providers means *Metering Data Providers*, *Metering Providers* and relevant *Network Service Providers*.

substitute, substitution, substituted has the meaning given in clause S7A.3.1.3 of schedule 7A.3.

validate, validation, validated has the meaning given in clause S7A.3.1.3 of schedule 7A.3.

S7A.4.5.2 Purpose

(a) The purpose of Part B of this schedule is to detail the obligations, technical requirements, measurement processes and performance requirements that are to be performed, administered and maintained by the *Metering Data Provider*.

(b) This Part details:

(1) the obligations of the *Metering Data Provider* in the provision of *metering data services*;

(2) the obligations of the *Metering Data Provider* to establish and maintain a *metering data services database*; and

(3) the obligations of the *Metering Data Provider* in support of the *Metering Coordinator*.

S7A.4.6 Obligations

S7A.4.6.1 Metering data services

The *Metering Data Provider* must:

(a) provide *metering data services* in accordance with the *Rules* and relevant jurisdictional codes and policies;

(b) establish, maintain and operate a *metering data services database*;

(c) ensure that the *metering data services database* including all distributed systems, personal computers and equipment used for collection is synchronised to *Australian Central Standard Time* in accordance with the accuracy requirements of clause 7A.8.7(b);

(d) ensure that all *metering installations* are synchronised to *Australian Central Standard Time* through the collection process in accordance with the accuracy requirements of clause 7A.8.7(c), for the relevant *metering installation* type;

(e) maintain the security and confidentiality of any *metering installation* passwords;

(f) undertake the collection, processing and delivery of *metering data* and significant *meter* alarms; and

(g) make all reasonable endeavours to cooperate in good faith with all *Registered Participants*, *Metering Providers* and *Metering Data Providers* within this jurisdiction.

S7A.4.6.2 Use of contractors

(a) If a *Metering Data Provider* engages a contractor to assist it to perform any of its obligations under the *Rules* (including this schedule) (see clause 7A.4.2(d)), the *Metering Data Provider* must ensure that processes are in place to certify that all work performed by the contractor on behalf of the *Metering Data Provider* is compliant with the *Rules* (including this schedule).

(b) While the *Metering Data Provider* may contract out *metering* work, the *Metering Data Provider* may not delegate any of its responsibilities under the *Rules*. The *Metering Data Provider* is responsible and liable for all acts and omissions of the contractor as if they were acts and omissions of the *Metering Data Provider*.

S7A.4.6.3 Specific obligations for Metering Data Provider

(a) The *Metering Data Provider* must:

(1) undertake validation, substitution and estimation of *metering data* in accordance with schedule 7A.3, Part B;

(2) provide *metering data services* which relate to the collection, calculation, processing and delivery of *metering data*; and

(3) ensure *metering* details and parameters within the *metering data services database* are correct such that the *metering data* is accurate.

(b) Where the *metering installation* includes the measurement of *reactive energy*, the *Metering Data Provider* must store this *metering data* with the active *metering data* in the *metering data services database*.

S7A.4.7 System architecture and administration

S7A.4.7.1 System requirements

(a) The *Metering Data Provider* must maintain and operate a *metering data services database* to facilitate the:

(1) collection of *metering data*;

(2) processing, calculation, validation, substitution and estimation of *metering data*;

(3) delivery of *metering data* to *Registered Participants* and other Service Providers;

(4) assignment and version control of participant roles for *connection points*;

(5) commissioning of each *metering installation* into the *Metering Data Provider's metering data services database*; and

(6) storage and archiving of *metering data* and validated *metering data* from the *metering installation*.

(b) The *Metering Data Provider* must maintain and operate a *metering data services database* that provides a full auditable trail and version control capability. This functionality must be applied to:

(1) *metering data*;

(2) assigned data quality flags;

(3) substitution and estimation types;

(4) significant *metering data* alarms (listed in schedule 7A.3, Part B);

(5) the delivery of *metering data* to *Registered Participants* and other *Metering Data Providers*; and

(6) the mapping of all *metering* data streams (including logical *metering* data streams).

(c) The *Metering Data Provider* must maintain, operate and monitor a system that supports the detection of system or process errors. These exception reports must include but not be limited to:

(1) missed reads and missing intervals of *metering data* within the *metering data services database*;

(2) long-term substitutions and estimations;

(3) *metering data* errors and data overlaps;

(4) validation errors;

(5) failed batch processing, database errors and hardware failures;

(6) the capture of file syntax errors, failed and rejected *metering data* deliveries;

(7) status management of collection interfaces; and

(8) status management of *metering installation malfunctions*.

S7A.4.7.2 Collection process requirements

(a) The *Metering Data Provider* must use reasonable endeavours to ensure actual *metering data*, including significant *meter* and *metering data* alarms, is collected for all *connection points* for which it has responsibility for *metering data services*.

(b) The *Metering Data Provider* must operate a process that:

(1) records and logs faults and problems associated with the reading function of *meters*. The process must record and log, but is not limited to, any:

(i) access problems;

(ii) *metering installation* security problems;

(iii) *metering installation* faults;

(iv) read failures; and

(v) *metering installation* time synchronisations;

(2) supports the *Metering Coordinator*, the *Metering Provider*, or both in the rectification of any *metering installation malfunctions* or problems associated with the reading function of *meters*; and

(3) provides notification of any *metering installation malfunction*, to the *Metering Coordinator* and the *Metering Provider*, in accordance with clause 7A.6.7, so that repairs can be effected in a timely manner.

S7A.4.7.3 Specific collection process requirements for type 1, 2, 3 and 4 metering installations

(a) The requirements of this clause are applicable to type 1, 2, 3 and 4 *metering installations*.

(b) The *Metering Data Provider* must be capable of initiating a remote reading where *metering data* is missing, erroneous or has failed validation.

(c) The *Metering Data Provider* must operate and maintain a process which:

(1) initiates an alternate method to collect *metering data* where *remote acquisition* becomes unavailable; and

(2) provides a reading event log detailing successful read events for each *metering installation*, or alternatively an exception report of failed *meter* reads.

S7A.4.7.4 Specific collection process requirements for type 5 and 6 metering installations

(a) The requirements of this clause are applicable to type 5 and 6 *metering installations*.

(b) The *Metering Data Provider* must:

(1) develop and maintain a *meter* reading schedule in accordance with schedule 7A.3, Part A;

(2) maintain read routes with particular attention to any specific access requirements and hazard information;

(3) use reasonable endeavours to ensure that *metering data* is collected at a frequency which is at least once every 3 months;

(4) ensure that scheduled meter reading lists and programmed reading equipment are provisioned, updated and maintained;

(5) use reasonable endeavours to ensure that the *metering data* is collected within 2 *business days* prior to, or 2 *business days* subsequent to, the scheduled meter reading date; and

(6) ensure that all *metering data* collected and any fault reason codes associated with a reading failure are transferred to the *metering data services database* within 1 *business day* of the data being collected or attempted to be collected from the *metering installation*.

S7A.4.7.5 Metering data processing requirements

(a) The *Metering Data Provider* must have a process to:

(1) confirm and utilise the participant roles for *connection points*;

(2) assign and store the date/time stamp of when the *metering data* was entered into the *Metering Data Provider's metering data services database*;

(3) ensure that, in accordance with schedule 7A.3, Part B, all *metering data* is stored in the *metering data services database* with the correct:

(i) Quality Flag;

(ii) Substitution or Estimation Type Code (where applicable); and

(iii) Substitution or Estimation Reason Code (if applicable); and

(4) check the *metering data services database* for missing *metering data* and overlaps.

(b) Where the *Metering Coordinator* or the *Metering Provider* informs the *Metering Data Provider* of a situation that may cause *metering data* to be erroneous, the *Metering Data Provider* must identify and substitute any erroneous *metering data*.

(c) Where any *Registered Participant* for the *connection point* disputes *metering data*, the *Metering Data Provider* must investigate, and if necessary correct the *metering data* in accordance with schedule 7A.3, Part B.

(d) Where the *meter* assigns alarms to the *metering data*, the *Metering Data Provider's* system must process the alarm along with the *metering data* as part of the validation process in accordance with schedule 7A.3, Part B.

(e) The *Metering Data Provider* must use reasonable endeavours to load *metering data* in an alternative format provided by the *Metering Provider* where there is a communications or reading malfunction, or a *metering installation malfunction*, that prevents the normal collection of *metering data* from the *metering installation*.

(f) The *Metering Data Provider* must have a process to aggregate *interval metering data* for a *connection point* into a 30 minute interval net data stream.

S7A.4.7.6 Specific metering data processing requirements for type 1, 2, 3 and 4 metering installations

(a) The requirements of this clause are applicable to type 1, 2, 3 and 4 *metering installations*.

(b) The *Metering Data Provider* must have a process to be capable of undertaking simple cumulative or subtractive processes to manage complex *metering* configurations. Typically the system must support:

(1) an A+B+C or A-B-C aggregation configuration;

(2) *metering data* validation capability for standard, partial or *check meter connection points* which incorporates a simple comparison of single data stream of *metering data* to a single data stream of *check metering data* within an acceptable tolerance; and

(3) the calculation of the average of the 2 validated data sets for *metering installations* where the *check metering installation* duplicates the *metering installation* and accuracy level. The average of the 2 validated data sets must be delivered to *Registered Participants*.

S7A.4.7.7 Specific metering data processing requirements for type 7 metering installations

(a) The requirements of this clause are applicable to type 7 *metering installations*.

(b) The *Metering Data Provider* must store inventory tables, load tables and on/off tables, as defined in schedule 7A.3, Part B, in the *metering data services database*.

(c) The *Metering Data Provider* must ensure:

(1) inventory tables are updated with any changes provided by the relevant *Network Service Provider* or *Metering Coordinator*;

(2) on/off tables are correct and compliant with details specified in schedule 7A.3, Part B; and

(3) load tables are correct.

(d) The *Metering Data Provider* must validate that load tables, inventory tables and on/off tables are complete and correct.

(e) The *Metering Data Provider* must ensure the inventory table, load table and on/off table are versioned for *metering data* calculations.

(f) The *Metering Data Provider* must ensure that all *calculated metering data* is validated and processed into *recording intervals*.

S7A.4.7.8 Specific metering data estimation requirements for types 5, 6 and 7 metering installations

(a) The requirements of this clause are applicable to type 5, 6, and 7 *metering installations*.

(b) The *Metering Data Provider* must have a process for the creation of *estimated metering data*.

(c) To meet *metering data* delivery requirements, this process must either:

(1) create individual blocks of *estimated metering data* on a daily basis; or

(2) create a single block of *estimated metering data*:

(i) from the current reading event to a period beyond the newly published next scheduled read date for types 5 and 6 *metering installations*; or

(ii) from the current calculation event to a period beyond the next scheduled calculation event for type 7 *metering installations*.

S7A.4.7.9 Delivery performance requirements for metering data

(a) The *Metering Data Provider* must ensure only *metering data* which has passed validation is delivered to other *Metering Data Providers* and *Registered Participants*.

(b) The *Metering Data Provider* must:

(1) deliver to other *Metering Data Providers* and *Registered Participants* all actual *metering data* which has passed validation within 2 *business days* of the actual *metering data* being received into the *metering data services database*;

(2) substitute, validate and deliver to other *Metering Data Providers* and *Registered Participants* the *substituted metering data* within 2 *business days* of the actual *metering data* being received into the *metering data services database* and failing validation; and

(3) substitute, validate and deliver to other *Metering Data Providers* and *Registered Participants* the *substituted metering data* within 2 *business days* of the receipt of any fault reason codes associated with a reading failure or failed interrogation event, into the *metering data services database*.

(c) The *Metering Data Provider* must validate and deliver to other *Metering Data Providers* and *Registered Participants* all *substituted metering data* within 2 *business days* of the *metering data* being substituted.

(d) For type 5, 6 and 7 *metering installations* the *Metering Data Provider* must validate and deliver to other *Metering Data Providers* and *Registered Participants* all *estimated metering data* within 2 *business days* of the *metering data* being estimated.

(e) The *Metering Data Provider* must provide *metering data* to the financially responsible participant within 2 *business days* of receiving a completed notification of a change of financially responsible participant, including *estimated metering data*, for a type 5, 6 or 7 *metering installation*.

(f) The *Metering Data Provider* must ensure that all failed validations are reviewed promptly such that:

(1) where the initial review of the failed validation identifies that the actual *metering data* is valid, deliver the actual *metering data* other *Metering Data Providers* and *Registered Participants* within 2 *business days* of the *metering data* being received into the *metering data services database*; and

(2) where further information is required to validate the actual *metering data*, and the receipt of such information identifies that the actual *metering data* is valid, deliver the actual *metering data* to other *Metering Data Providers* and *Registered Participants* within 2 *business days* of the *metering data* passing validation.

(g) The *Metering Data Provider* must notify affected participants of any operational delays which impact on normal expected *metering data* delivery.

S7A.4.8 System architecture and administration

S7A.4.8.1 Data back-up

All *metering data* must be backed-up at a minimum on a daily basis and held in a secure environment.

S7A.4.8.2 Disaster recovery

(a) The *Metering Data Provider* must ensure that a Disaster Recovery Plan is established and in place to ensure that in the event of a

system failure, the system can be returned to normal operational service within 2 *business days*.

(b) The *Metering Data Provider* must ensure that the Disaster Recovery Plan is:

(1) up-to-date with all documentation showing revisions; and

(2) witnessed and dated at least annually by the *Metering Data Provider* as being current for the systems and processes in place.

(c) Where the *Metering Data Provider* adopts a Disaster Recovery Plan that has a complete 'fail-over' system approach, the Disaster Recovery Plan must be subjected to a test annually that facilitates a full 'fail-over' to the recovery system.

(d) Where the *Metering Data Provider* adopts a Disaster Recovery Plan that has a segmented system approach, the Disaster Recovery Plan must:

(1) detail the interfaces and relationships between system segments;

(2) be established for each individual system segment;

(3) be tested annually with evidence retained to show disaster recovery for each individual system segment; and

(4) have, for each individual system segment, a procedure that clearly details the process to establish a return to full operation.

(e) Expected evidence to support Disaster Recovery Plan testing should include, but not be limited to:

(1) a Test Plan of the fail-over;

(2) results of the fail-over including timing;

(3) system logs indicating fail-over and recovery; and

(4) logs or notations evidencing resumption of *Metering Data Provider* operations.

(f) In the event a system failure does occur, the *Metering Data Provider* must ensure that its *metering data services database* is restored to operational service within 2 *business days*.

S7A.4.8.3 System administration and data management

The *metering data services database* must be operated and administered to facilitate:

(a) controlled access to systems and data using unique identification and passwords for each user;

(b) the restriction of access to the underlying database tables to nominated System Administrators; and

(c) a minimum of 95% system availability (i.e. hardware and systems downtime do not exceed a maximum of 438 hours per annum).

S7A.4.9 Administration

S7A.4.9.1 Bilateral agreements

(a) A *Registered Participant* may request the *Metering Data Provider* to do any of the following:

(1) provide *metering data* in an alternate format;

(2) deliver *metering data* by an alternate method;

(3) deliver *metering data* in an alternate time frame;

(4) provide any other *metering data services*.

(b) Under paragraph (a), there is no mandated requirement for a *Metering Data Provider* to implement system changes and processes to facilitate bilateral agreements.

(c) Any acceptance by the *Metering Data Provider* to deliver *metering data* to a *Registered Participant* in accordance with paragraph (a) must not impact on *metering data* delivery to any other *Registered Participant* for the *connection point(s)* concerned.

S7A.4.9.2 Quality systems

The *Metering Data Provider* must operate and retain a quality system that is at least equal to a quality accreditation to the ISO9001 or ISO9002 standards.

Schedule 7A.5 Meter functionality requirements for type 1, 2, 3 and 4 metering installations

S7A.5.1 Introduction

S7A.5.1.1 Purpose

This schedule specifies the *meter* functionality requirements for type 1, 2, 3 and 4 *metering installations* in this jurisdiction.

S7A.5.1.2 Definitions

In this schedule:

communications network means all communications equipment, processes and arrangements that lie between the *meter* and the NMS.

end user customer means the customer or retail customer who consumes electricity at the point of use.

export means the delivery of *energy* from the *network* to an end-use customer.

import means the delivery of *energy* from an end-use customer into a *distribution network*.

local disconnection means the operation of the supply contactor to effect a *disconnection* of *supply* performed locally at the *meter* by alternative electronic means.

metering system means the installed *metering installation*, communications network or infrastructure, and any other systems required under this schedule.

NMS (Network Management System) means the component of a metering system that manages the communications network.

remote disconnection means the utilisation of the communication system to *disconnect* the end-use customer's *supply* at the *meter* by the operation of a contactor.

supply contactor means the contactor in the *meter* that, when opened, causes the *supply* to be *disconnected* and, when closed, allows the *supply* to become *connected*.

total accumulated energy means the total or accumulated amount of *energy* measured and recorded per channel of a *meter* since the installation of the *meter* or the resetting of the value.

S7A.5.2 Functionality Requirements for Meters in Type 1, 2, and 3 metering installations

S7A.5.2.1 Application

Clause S7A.5.2 applies to *meters* in type 1, 2 and 3 *metering installations*.

S7A.5.2.2 Applicable meter configurations

(a) The configuration for a *meter* must be:

(1) three phase Low Voltage *CT* connect (excluding supply contactor); or

(2) three phase *CT*/*VT*.

(b) *Meters* must meet the relevant requirements of *AS* 62052.11, *AS* 62053.22 and *AS* 62053.21, and any pattern approval requirements of the National Measurement Institute.

S7A.5.2.3 Metrology

Meters must comply with the following requirements:

(a) three phase *meters* must be four quadrant *meters* and must be able to separately record *active energy* and *reactive energy*, import and export in *recording intervals*;

(b) *meters* must record total accumulated energy for each recorded channel of interval data;

(c) the resolution for collection of *interval energy data* must be at least 0.1 kWh for *active energy* and 0.1 kVArh for *reactive energy*;

(d) *meters* must have a minimum storage of 35 *days* per channel of *interval energy data*;

(e) all channels of *interval energy data* must be able to be read locally as well as remotely read;

(f) it must be possible to remotely and locally select or configure whether import *interval energy data* is recorded or not;

(g) it must be possible to remotely and locally select or configure whether *reactive energy interval energy data* is recorded from three phase *meters* or not.

S7A.5.3 Functionality Requirements for Meters in Type 4 metering installations

S7A.5.3.1 Application

Clause S7A.5.3 applies to *meters* in type 4 *metering installations*.

S7A.5.3.2 Applicable meter configurations

(a) The configuration for a *meter* must be:

(1) single phase, single element;

(2) single phase, two element;

(3) three phase direct connect; or

(4) three phase *CT* connect (excluding supply contactor).

(b) *Meters* must meet the relevant requirements of *AS* 62052.11, *AS* 62053.22 and *AS* 62053.21, and any pattern approval requirements of the National Measurement Institute.

S7A.5.3.3 Metrology

Meters must comply with the following requirements:

(a) single phase *meters* must be two quadrant *meters* and must be able to separately record *active energy* for import and export in *recording intervals*;

(b) three phase *meters* must be four quadrant *meters* and must be able to separately record *active energy* and *reactive energy*, import and *export* in *recording intervals*;

(c) *meters* must record total *accumulated energy data* for each recorded channel of *interval energy data*;

(d) the resolution for collection of *interval energy data* must be at least 0.1 kWh for *active energy* and 0.1 kVArh for *reactive energy*;

(e) the resolution of *energy* consumption displayed on a *meter's* display must be at least 0.1 kWh and 0.1 kVArh for direct connected *meters*;

(f) *meters* must have a minimum storage of 200 *days* per channel of *interval energy data*;

(g) all channels of *interval energy data* must be able to be read locally as well as by *remote acquisition*;

(h) the values that must be recorded for *import* and *export* are the actual values at the *connection point* for direct connect *meters*;

(i) it must be possible to remotely and locally select or configure whether *import interval energy data* is recorded or not;

(j) it must be possible to remotely and locally select or configure whether *reactive energy interval energy data* is recorded from three phase *meters* or not.

Note:

Export is when energy is exported from the network to a customer and import is when the customer delivers energy into the network. See clause S7A5.1.2.

S7A.5.3.4 Remote and local reading of meters

(a) If a *meter* is remotely read:

(1) the *meter's* total *accumulated energy data* per collected channel must be able to be collected once every 24 hours; and

(2) the *interval energy data* per collected channel must be able to be collected once every 24 hours.

(b) If a *meter* is locally read, the *meter's* total accumulated energy per collected channel and the *interval energy data* per collected channel must be able to be collected.

(c) For individual reads of *meters*, it must be possible to select up to 35 *days* of *interval energy data* to be collected per channel.

S7A.5.3.5 Supply disconnection and reconnection

S7A.5.3.5.1 General requirements

(a) *Meters* excluding *CT* connected *meters* must have a supply contactor.

(b) *Meters* must support both local and remote disconnect, and local and remote *reconnection* of end-use customer *supply* via the supply contactor. When a *meter* performs a *disconnection* operation, all outgoing circuits from the *meter* must be *disconnected*.

(c) To confirm the current state of a *meter*, the *meter* must support "on-demand" remote polling of the *meter* to determine whether the supply contactor is open or closed.

(d) A *meter* must provide clear local visual indication of the status (open/closed) of the supply contactor.

S7A.5.3.5.2 Disconnection

(a) A *meter* must support both local and remote end-use customer supply disconnection functionality.

Local disconnection

Note:

The circumstances in which local disconnection may occur include where:

(a) a technician is already on-site performing works and it is most efficient for the technician to perform the *disconnection*; or

(b) a *meter* that is capable of remote reading is installed; however the communications infrastructure has not been rolled out or has failed.

(b) Local disconnection via the *meter* must only be able to be performed by an authorised technician. Unauthorised persons must be physically prevented from operating the supply contactor to *disconnect supply*.

(c) A *meter* must support the following:

(1) opening of the supply contactor performed locally;

(2) remote communication of the status (open/closed) of the supply contactor (if communications are active) from the *meter* to the NMS;

(3) event logging of the local disconnection at that *meter*.

Remote disconnection

(d) A *meter* must support the following:

(1) opening of the *supply contactor* performed remotely;

(2) remote communication of the status (open/closed) of the *supply contactor* (if communications are active) from the *meter* to the NMS;

(3) event logging of the *remote disconnection* at that meter.

S7A.5.3.5.3 Reconnection

(a) A *meter* must support both local and remote end-use customer *supply reconnection* functionality.

Local reconnection

(b) *Reconnection* via the *meter* must only be able to be performed locally by an authorised technician. Unauthorised persons must be physically prevented from operating the supply contactor to *reconnect supply*.

(c) A meter must support the following:

(1) closing of the supply contactor performed locally;

(2) remote communication of the status (open/closed) of the supply contactor (if communications are active) from the *meter* to the NMS;

(3) event logging of local *reconnection* at that *meter*.

Remote reconnection

(d) A *meter* must support the following:

(1) closing of the supply contactor performed remotely;

(2) remote communication of the status (open/closed) of the supply contactor from the *meter* to the NMS; and

(3) event logging of remote *reconnection*.

S7A.5.3.6 Time clock synchronisation

Date and time within *meters* must be maintained within 20 seconds of *Australian Central Standard Time*.

S7A.5.3.7 Quality of Supply and other event recording

(a) A *meter* must support the recording of Quality of Supply (QoS) events and other events that occur at each *meter* as detailed as follows:

ID	Events
1	Import energy detected
2	Supply contactor opened – local
3	Supply contactor opened – remote
4	Supply contactor closed – local
5	Supply contactor closed – remote
6	Undervoltage event
7	Overvoltage event
8	Tamper detected
9	Whenever there is a change of meter settings locally

Undervoltage and overvoltage recording

(b) A *meter* must support the recording of undervoltage and overvoltage events. The thresholds shall be remotely and locally settable for undervoltage in the range of at least -5% to -20% in 1% steps and for overvoltage in the range of at least +5% to +20% in 1% steps.

Tamper detection

(c) A *meter* must support the detection and recording of an attempt to tamper with the *meter* as an event.

S7A.5.3.8 Tamper detection

A *meter* must support the detection and *recording* as an event attempts to tamper with the *meter*.

S7A.5.3.9 Communications and data security

All device elements must contain the necessary security to prevent unauthorised access or modification of data.

S7A.5.3.10 Remote firmware upgrades

Meters must have the capability for their firmware to be remotely upgraded. It must be possible to remotely change firmware without impacting the metrology functions of the *meter*.

S7A.5.3.11 Remote arming

Meters must have the capability to be remotely armed.

88 Clause 8.1.3 modified

After clause 8.1.3, heading

insert

Note

Clause 8.1.3(b)(5) and (7) has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

89 Chapter 8, Part B modified

After Chapter 8, Part B, heading

insert

Note

This Part has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of this Part will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

90 Clause 8.6.1 modified

After clause 8.6.1, heading

insert

Note

Clause 8.6.1(d) and (e) has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

91 Clause 8.6.2 modified

After clause 8.6.2, heading

insert

Note

Clause 8.6.2(l) has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

92 Clause 8.6.5 replaced

Clause 8.6.5

repeal, insert

8.6.5 Indemnity to AER and AEMC

Each *Registered Participant* must indemnify the *AER* and the *AEMC* against any claim, action, damage, loss, liability, expense or outgoing which the *AER* or the *AEMC* pays, suffers, incurs or is liable for in respect of any breach by that *Registered Participant* or any officer, agent or employee of that *Registered Participant* of this rule 8.6.

93 Clauses 8.6.6 and 8.6.7 modified

After clauses 8.6.6 and 8.6.7, headings

insert

Note

This clause has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

94 Clause 8.7.1 modified

(1) Clause 8.7.1(b)(1)

omit

and *AEMO*

(2) Clause 8.7.1(c)(3)

omit

, all *Registered Participants* and *AEMO*

insert

and all *Registered Participants*

95 Clause 8.7.2 modified

(1) Clause 8.7.2, heading

omit, insert

8.7.2 Reporting requirements and monitoring standards for Registered Participants

Note

Clause 8.7.2(a)(2) and (4) and (b)(2) has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

(2) Clause 8.7.2(a)(5)

omit

or *AEMO*

(3) Clause 8.7.2(b)(1)

omit

, *AEMO*

(4) Clause 8.7.2(b)(1)

omit

, (4)

(5) Clause 8.7.2(c)

omit

AEMO and

(6) Clause 8.7.2(e)

omit (all references)

and *AEMO*

(7) Clause 8.7.2(f)

omit

all words from "neither" to "be)"

insert

a *Registered Participant* must not recklessly or knowingly provide, or permit any other person to provide on behalf of that *Registered Participant*

(8) Clause 8.7.2(g)

omit

or *AEMO*

(9) Clause 8.7.2(g) and (h)

omit

and/or *AEMO* (as the case may be)

(10) Clause 8.7.2(g)

omit

and (to the extent relevant) *AEMO*

96 Clause 8.7.6 modified

After clause 8.7.6, heading

insert

Note

Clause 8.7.6 has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

97 Chapter 8, Parts E and G modified

After Chapter 8, Parts E and G, headings

insert

Note

This Part has no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

98 Chapter 8, Parts H modified

After Chapter 8, Part H, heading

insert

Note

This Part has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

99 Chapter 10 modified

(1) Chapter 10, definitions ***accumulated energy data***, ***accumulated metering data***, ***application to connect***, ***business day***, ***calculated metering data***, ***check meter***, ***check metering data***, ***check metering installation***, ***Connection Applicant***, ***connection point***, ***control centre***, ***Customer***, ***customer authorised representative***, ***day***, ***Distribution Network Service Provider***, ***distribution system***, ***estimated metering data***, ***facilities***, ***financially responsible***, ***Generator***, ***interval energy data***, ***interval metering data***, ***Metering Coordinator***, ***Metering Data Provider***, ***metering data services***, ***metering data services database***, ***metering installation malfunction***, ***Metering Provider***, ***National Electricity Law***, ***national grid***, ***Network Service Provider***, ***NMI***, ***nominal voltage***, ***nominated pass through event considerations***, ***positive change event***, ***power system***, ***regulatory control period***, ***remote acquisition***, ***Rules***, ***substituted metering data***, ***telecommunications network***, ***time***, ***transmission network***, ***Transmission Network Service Provider***, ***transmission or distribution system*** and ***unmetered connection point***

omit

(2) Chapter 10

insert (in alphabetical order)

1st regulatory control period

In relation to a *Network Service Provider* in this jurisdiction, means the first period during which the provider will be or is subject to a control mechanism imposed by a distribution determination, being the period from 1 July 2019 to 30 June 2024.

2009-14 NT regulatory control period

The regulatory control period that commenced on 1 July 2009 under the *NT Network Access Code*.

2014-19 NT regulatory control period

The regulatory control period that commenced on 1 July 2014 under the *NT Network Access Code*.

2014 NT Ministerial Direction

The direction issued by the shareholding Minister of Power and Water Corporation ABN 15 947 352 360 to the board of the Corporation under section 8(4)(a) of the *Government Owned Corporations Act* (NT), dated 19 June 2014.

2014 NT Network Price Determination

The "2014 Network Price Determination" made by the *Utilities Commission* under the *Utilities Commission Act* (NT), *Electricity Reform Act* (NT) and Chapter 6 of the *NT Network Access Code* that:

(a) applies, or applied, from 1 July 2014 to 30 June 2019; and

(b) because of section 57 of the *Electricity Networks (Third Party Access) Act* (NT), is, or was, a network pricing determination made under section 6A(1) of that Act,

as amended, varied or substituted from time to time.

accumulated energy data

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

accumulated metering data

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

application to connect

An application made by a *Connection Applicant* in accordance with Chapter 5, Part A for *connection* to a *network* and/or the provision of *network services* or modification of a *connection* to a *network* and/or the provision of *network services*.

Australian Central Standard Time (ACST)

The time that is set at 9 hours and 30 minutes in advance of *Co-ordinated Universal Time*.

business day

A day that is not:

(a) a Saturday or Sunday; or

(b) a public holiday as defined in section 17 of the *Interpretation Act* (NT) (other than a public holiday that is part of a day) in the City of Darwin.

calculated metering data

The *recording interval* data corresponding to the calculation of consumed *energy* for a type 7 *metering installation* in accordance with schedule 7A.3. *Calculated metering data* is held in the *metering data services database*.

check meter

An additional *meter* used as a source of *check metering data* for type 1 and 2 *metering installations* as specified in schedule 7A.1.

check metering data

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

check metering installation

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

Connection Applicant

A:

(a) *Registered Participant*;

(b) person intending to become a *Registered Participant*; or

(c) non-registered embedded generator who elects to seek *connection* of an *embedded generating unit* under Chapter 5 in accordance with clause 5A.A.2(c),

who wants to establish or modify a *connection* to a *transmission network* or *distribution network* and/or who wishes to receive *network services* and who makes an *application to connect*.

Note:

In the context of Chapter 5A, the above definition has been displaced by a definition specifically applicable to that Chapter. See clause 5A.A.1.

connection point

The agreed point of *supply* established between *Network Service Provider*(s) and another *Registered Participant*, *Non-Registered Customer* or *franchise customer*.

control centre

The *facilities* used by a *Network Service Provider* for managing the *power system*.

Customer

A person who:

(a) under Part 3 of the *Electricity Reform Act* (NT), holds a licence authorising the selling of electricity; but

(b) does not hold a licence authorising the ownership or operation of an electricity network under that Part.

customer authorised representative

A person authorised by a *retail customer* to request and receive information under Chapter 7A on the *retail customer's* behalf.

day

Unless otherwise specified, the 24 hour period beginning and ending at midnight *Australian Central Standard Time*.

Distribution Network Service Provider

A person who:

(a) engages in the activity of owning, controlling, or operating a *distribution system*; and

(b) under Part 3 of the *Electricity Reform Act* (NT), holds a licence authorising the ownership or operation of an electricity network.

distribution system

Means:

(a) a *distribution network*, together with the *connection assets* associated with the *distribution network*, which is connected to another *transmission or distribution system* within the other *participating jurisdictions*; or

(b) a *distribution network* that forms part or all of a local electricity system, together with the *connection assets* associated with the *distribution network*.

Connection assets on their own do not constitute a *distribution system*.

estimated metering data

The estimated values of *accumulated metering data*, *interval metering data* or *calculated metering data* that have been prepared in accordance with schedule 7A.3. *Estimated metering data* is held in a *metering data services database*.

facilities

A generic term associated with the apparatus, equipment, buildings and necessary associated supporting resources provided at, typically:

(a) a *power station* or *generating unit*;

(b) a *substation* or *power station switchyard*;

(c) a *control centre*;

(d) facilities providing an *exit service*.

financially responsible

In relation to a *connection point*, a term which is used to describe the person authorised to have either:

1. the *load connected* at that *connection point*; or

2. the *generating unit connected* at that *connection point*.

Note:

The obligations on *Customers* (including *retailers*) and *Generators* in relation to the authorisation of, respectively, *load* or *generating units connected* at a *connection point* will be considered as part of the phased implementation of the *Rules* in this jurisdiction.

Generator

A person who:

(a) engages in the activity of owning, controlling or operating a *generating system* that is *connected* to, or who otherwise *supplies* electricity to, a *transmission or distribution system*; and

(b) is a *Registered Participant* who, under Part 3 of the *Electricity Reform Act* (NT), holds a licence authorising the generation of electricity.

interval energy data

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

interval meter

A *meter* that records *interval energy data*.

interval metering data

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

Metering Coordinator

A person appointed to the role of *Metering Coordinator* in this jurisdiction.

Metering Data Provider

A person appointed to be a *Metering Data Provider* for a *connection point*.

metering data services

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

metering data services database

The database established and maintained by the *Metering Data Provider* that holds *metering data* and *NT NMI data* relating to each *metering installation* for which the *Metering Coordinator* has appointed the *Metering Data Provider* to provide *metering data services*.

metering installation malfunction

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

(a) meet the requirements of schedule 7A.1;

(b) record, or incorrectly records, *energy data*; or

(c) allow, or provide for, collection of *energy data*.

Metering Provider

A person appointed to be a *Metering Provider* for a *connection point*.

National Electricity Law

The National Electricity (NT) Law.

national grid

The sum of:

(a) all *connected transmission systems* and *distribution systems* within the other *participating jurisdictions*; and

(b) the *transmission systems* and *distribution systems* in this jurisdiction.

Network Service Provider

A *Distribution Network Service Provider* or *Transmission Network Service Provider*.

NMI

A National Metering Identifier issued by the relevant *Network Service Provider*.

nominal voltage

The design *voltage* level, nominated for a particular location on the *power system*, such that power lines and circuits that are electrically connected other than through transformers have the same *nominal voltage* regardless of operating *voltage*.

nominated pass through event considerations

The *nominated pass through event considerations* are:

(a) whether the event proposed is an event covered by a category of *pass through event* specified in clause 6.6.1(a1)(1AA) to (4) (in the case of a distribution determination) or clause 6A.7.3(a1)(1) to (4) (in the case of a *transmission determination*);

(b) whether the nature or type of event can be clearly identified at the time the determination is made for the service provider;

(c) whether a prudent service provider could reasonably prevent an event of that nature or type from occurring or substantially mitigate the cost impact of such an event;

(d) whether the relevant service provider could insure against the event, having regard to:

(1) the availability (including the extent of availability in terms of liability limits) of insurance against the event on reasonable commercial terms; or

(2) whether the event can be self-insured on the basis that:

(i) it is possible to calculate the self-insurance premium; and

(ii) the potential cost to the relevant service provider would not have a significant impact on the service provider's ability to provide *network services*; and

(e) any other matter the *AER* considers relevant and which the *AER* has notified *Network Service Providers* is a nominated pass through event consideration.

NT equivalent services

Regulated network access services (as defined in clause 3 of the *NT Network Access Code*) that are designated as direct control services in Table 3.1 of Part A of the *2014 NT Network Price Determination*.

NT Network Access Code

The Network Access Code as defined in section 2A(1) of the *Electricity Networks (Third Party Access) Act* (NT).

NT NMI data

The following data in respect of a *connection point*:

(a) the *NMI* of the *connection point* and the street address of the relevant *connection point* to which that *NMI* is referable;

(b) the *NMI* checksum for the *connection point*;

(c) the identity of the relevant *Network Service Provider*;

(d) the relevant *distribution loss factor* applicable to the *connection point*;

(e) the Network Tariff (identified by a code) applicable in respect of the *connection point*;

(f) the read cycle date, or date of next scheduled read or date in a relevant code representing the read cycle date or date of next scheduled read, for that c*onnection point*,

and, to avoid doubt, does not include any *metering data* or other details of an end-user's consumption at that *connection point*.

positive change event

For a *Distribution Network Service Provider*, a *pass through event* which entails the *Distribution Network Service Provider* incurring *materially* higher costs in providing *direct control services* than it would have incurred but for that event, but does not include a *contingent project* or an associated *trigger event*.

For a *Transmission Network Service Provider*, a *pass through event* which entails the *Transmission Network Service Provider* incurring *materially* higher costs in providing *prescribed transmission services* than it would have incurred but for that event, but does not include a *contingent project* or an associated *trigger event*.

power system

The electricity power system of the *national grid* including associated *generation* and *transmission* and *distribution networks* for the *supply* of electricity, operated as an integrated arrangement or arrangements.

recording interval

A 30 minute period ending on the hour (*Australian Central Standard Time*) or on the half-hour and, if identified by a time, means the 30 minute period ending at that time.

regulatory control period

In respect of a *Network Service Provider*, a period of not less than 5 *regulatory years* for which the provider is subject to a control mechanism imposed by a distribution determination.

remote acquisition

The acquisition of *interval metering data* from a *telecommunications network* connected to a *metering installation* that:

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

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

(1) fixed-line telephone ('direct dial-up');

(2) satellite;

(3) the internet;

(4) wireless or radio, including mobile telephone networks;

(5) power line carrier; or

(6) any other equivalent technology.

Rules

The National Electricity Rules as defined in section 2(1) of the *National Electricity Law*.

substituted metering data

The substituted values of *accumulated metering data*, *interval metering data* or *calculated metering data* prepared in accordance with schedule 7A.3. *Substituted metering data* is held in a *metering data services database*.

telecommunications network

A telecommunications network that provides access for public use.

time

Australian Central Standard Time.

transmission network

Means:

(a) a *network* in this jurisdiction operating at *nominal voltages* of 66kV and above; or

(b) a *network* or part of a *network* prescribed by local instrument to be a *transmission network* or part of a *transmission network*,

but does not include a *network* or part of a *network* prescribed by local instrument not to be a *transmission network* or part of a *transmission network*.

Note:

The *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations* are a local instrument.

Transmission Network Service Provider

A person who:

(a) engages in the activity of owning, controlling or operating a *transmission system*; and

(b) under Part 3 of the *Electricity Reform Act* (NT), holds a licence authorising the ownership or operation of an electricity network.

transmission or distribution system

A *transmission system* or a *distribution system*.

unmetered connection point

A *connection point* at which a *meter* is not necessary under schedule 7A.1.

Utilities Commission

The Utilities Commission of the Northern Territory established by section 5 of the *Utilities Commission Act* (NT).

(3) Chapter 10, definition ***applicable regulatory instruments***, at the end

insert

(6A) Northern Territory:

(a) the *Electricity Reform Act* (NT);

(b) all instruments made and licences granted under the *Electricity Reform Act* (NT);

(c) the *Utilities Commission Act* (NT); and

(d) all instruments made under the *Utilities Commission Act* (NT).

(4) Chapter 10, definition ***franchise customer***, at the end

insert

Note:

There are no *franchise customers* in this jurisdiction.

100 Chapter 10 modified (expires on 1 July 2019)

Chapter 10, definition ***Registered Participant***

omit, insert

Registered Participant

A Registered participant as defined in the *National Electricity Law*.

101 Chapter 10 modified (expires on 1 July 2024)

(1) Chapter 10, definitions ***approved pass through amount***, ***negative pass through amount*** and ***positive pass through amount***

omit

(2) Chapter 10

insert (in alphabetical order)

approved pass through amount

In respect of a *positive change event* for a *Transmission Network Service Provider*:

(a) the amount which the *AER* determines should be passed through to *Transmission Network Users* under clause 6A.7.3(d)(2); or

(b) the amount which the *AER* is taken to have determined under clause 6A.7.3(e)(1),

as the case may be.

In respect of a *positive change event* or *NT positive change event* for a *Distribution Network Service Provider*:

(a) the amount the *AER* determines should be passed through to *Distribution Network Users* under clause 6.6.1(d)(2) or 6.6.1AB(d)(2); or

(b) the amount the *AER* is taken to have determined under clause 6.6.1(e)(1) or 6.6.1AB(e)(1),

as the case may be.

Note:

The modification to this definition expires on 1 July 2024.

negative pass through amount

In respect of a *negative change event* for a *Transmission Network Service Provider*, an amount that is not greater than a *required pass through amount* as determined by the *AER* under clause 6A.7.3(g).

In respect of a *negative change event* or *NT negative change event* for a *Distribution Network Service Provider*, an amount that is not greater than a *required pass through amount* as determined by the *AER* under clause 6.6.1(g) or 6.6.1AB(g).

Note:

The modification to this definition expires on 1 July 2024.

NT negative change event

A negative change event (as defined in Part B of the *2014 NT Network Price Determination*) for a *Distribution Network Service Provider*:

(a) that occurred during the *2014-19 NT regulatory control period*; and

(b) in relation to which, on or before 30 June 2019, a determination had not been made under clause 3.1.5(a) of Part B of the *2014 NT Network Price Determination* and the time for making it had not expired.

Note:

This definition expires on 1 July 2024.

NT positive change event

A positive change event (as defined in Part B of the *2014 NT Network Price Determination*) for a *Distribution Network Service Provider*:

(a) that occurred during the *2014-19 NT regulatory control period*; and

(b) in relation to which, on or before 30 June 2019, either:

(i) a statement had not been submitted under clause 3.1.2 of Part B of the *2014 NT Network Price Determination* and the time fixed for submitting it had not expired; or

(ii) a statement had been submitted under clause 3.1.2 of Part B of the *2014 NT Network Price Determination* but a determination had not been made under clause 3.1.3(a) of Part B of the Determination and the time for making it had not expired.

Note:

This definition expires on 1 July 2024.

positive pass through amount

For a *Transmission Network Service Provider*, an amount (not exceeding the *eligible pass through amount*) proposed by the provider under clause 6A.7.3(c).

For a *Distribution Network Service Provider*, an amount (not exceeding the *eligible pass through amount*) proposed by the provider under clause 6.6.1(c) or 6.6.1AB(c).

Note:

The modification to this definition expires on 1 July 2024.

(3) Chapter 10, definition ***eligible pass through amount***, at the end

insert

In respect of an *NT positive change event* for a *Distribution Network Service Provider*, the increase in costs in the provision of *direct control services* or *NT equivalent services* that, as a result of that *NT positive change event*, the *Distribution Network Service Provider* has incurred and is likely to incur (as opposed to the revenue impact of that event) until the end of the *1st regulatory control period*.

Note:

The modification to this definition expires on 1 July 2024.

(4) Chapter 10, definition ***required pass through amount***, at the end

insert

In respect of an *NT negative change event* for a *Distribution Network Service Provider*, the costs in the provision of *direct control services* or *NT equivalent services* that, as a result of the *NT negative change event*, the *Distribution Network Service Provider* has saved and is likely to save (as opposed to the revenue impact of that event) until the end of the *1st regulatory control period*.

Note:

The modification to this definition expires on 1 July 2024.

102 Chapter 10 modified (expires on 1 July 2029)

Chapter 10

insert (in alphabetical order)

2nd regulatory control period

In relation to a *Network Service Provider* in this jurisdiction, means the second period during which the provider will be or is subject to a control mechanism imposed by a distribution determination, being the period from 1 July 2024 to 30 June 2029.

Note:

This definition expires on 1 July 2029.

103 Chapter 10 modified (expires when NERL is applied)

Chapter 10, definition ***energy laws***

omit, insert

energy laws

Means:

(a) the national electricity legislation as defined in the *National Electricity Law*;

(b) these *Rules* and instruments made under these *Rules*;

(c) the national gas legislation as defined in the National Gas (NT) Law;

(d) the National Gas Rules as defined in the National Gas (NT) Law and instruments made under those Rules; and

(e) any other Northern Territory legislation that regulates energy.

Note:

The modifications to this definition expire when the *National Energy Retail Law* is applied as a law of this jurisdiction.

104 Chapter 11 modified

After Chapter 11, heading

insert

Note:

Parts A to ZZI, ZZK, ZZL, ZZN (except for clause 11.86.8), ZZO to ZZT, ZZV and ZZX have no effect in this jurisdiction (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of those Parts may be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

105 Clause 11.93.1 modified

Clause 11.93.1, definition **subsequent regulatory control period**

omit, insert

subsequent regulatory control period of:

(a) Power and Water Corporation – means the *1st regulatory control period*; or

(b) another affected DNSP or affected TNSP – means the *regulatory control period* for that affected DNSP or affected TNSP that immediately follows the current regulatory control period.

106 Chapter 11A inserted

After Chapter 11

insert

11A. NT Savings and Transitional Rules

Part A Savings and transitional rules for Chapter 5

Note

Part A of this Chapter has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

11A.1 Distribution Annual Planning Report

A *Distribution Network Service Provider* is not required to include in its first *Distribution Annual Planning Report published* under clause 5.13.2 the information specified in clause S5.8(a)(5) if information on energy and demand forecasts was not required to be reported by the *Distribution Network Service Provider* under *jurisdictional electricity legislation* applicable at the time the previous report was prepared.

Part B Savings and transitional rules for Chapter 5A

Note

Part B of this Chapter has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*).

11A.2 Model standing offers

11A.2.1 Definitions

In this Rule:

NT distributor means Power and Water Corporation ABN 15 947 352 360.

relevant provisions means Chapter 5A and Chapter 6, Part DA.

transition date means the date on which the transition period ends.

transition period means the period from the commencement of the *1st regulatory control period* (being 1 July 2019) to 30 June 2020.

11A.2.2 Extended meaning of some terms

During the transition period:

(a) a *basic connection service* includes not only a *connection service* for which a *model standing offer* has been approved by the *AER* (see paragraph (c) of the definition in clause 5A.A.1) but also one for which the *AER's* approval of a *model standing offer* is not required;

(b) a *standard connection service* includes not only a *connection service* for which a *model standing offer* has been approved by the *AER* (see the definition in clause 5A.A.1) but also one for which the *AER's* approval of a *model standing offer* is not required; and

(c) a *model standing offer* includes a document prepared and *published* by the NT distributor, without the *AER's* approval, as a *model standing offer* to have effect during the transition period (but not beyond the end of that period).

11A.2.3 Transitional operation of relevant provisions

(a) During the transition period, the relevant provisions operate subject to the exclusions, qualifications and modifications prescribed by this Rule.

(b) However, the relevant provisions operate without the exclusions, qualifications and modifications prescribed by this Rule insofar as they relate to:

(1) a period beyond the transition period; or

(2) a person (such as a new entrant to the industry) that is not the NT distributor.

Example

If the NT distributor submits a *regulatory proposal* for the *regulatory control period* that follows the transition period, the distributor is bound by the relevant provisions (without exclusion, qualification or modification) in relation to the *regulatory proposal* even though the proposal is submitted during the transition period.

(c) A transaction commenced by or with the NT distributor during the transition period may be continued and completed after the transition period without regard to *changes* to the rules governing the transaction that take effect at the end of the transition period.

11A.2.4 Exclusions, qualifications and modifications

During the transition period, the relevant provisions apply to, and in relation to, the NT distributor subject to the following exclusions, qualifications and modifications:

Model standing offers (basic connection services)

(a) A document, prepared by the NT distributor and *published* on the NT distributor's website, will (although not approved by the *AER*) be regarded as a *model standing offer* to provide *basic connection services* during the transition period if it complies with the requirements of clause 5A.B.2(b) as to its terms and conditions.

(b) If, during the transition period, the *AER* approves a *model standing offer* for the same *basic connection services*, the approved *model standing offer* supersedes the former *model standing offer* under this clause.

(c) The NT distributor's obligation to have a *model standing offer* to provide *basic connection services* (clause 5A.B.1) operates during the transition period but the *AER's* approval of the *model standing offer* is not required until the transition date.

(d) The NT distributor's obligation to submit for the *AER's* approval a proposed *model standing offer* to provide *basic connection services* (clause 5A.B.2(a)) does not arise until 31 December 2019.

Model standing offer (standard connection services)

(e) A document, prepared by the NT distributor and *published* on the NT distributor's website, will (although not approved by the *AER*) be regarded as a *model standing offer* to provide *standard connection services* during the transition period if it complies with the requirements of clause 5A.B.4(c) as to its terms and conditions.

(f) If, during the transition period, the *AER* approves a *model standing offer* for the same *standard connection services*, and the approved *model standing offer* is to take effect before the end of the transition period, the approved *model standing offer* supersedes the former *model standing offer*.

(g) The NT distributor may submit for the *AER's* approval a *model standing offer* to provide *standard connection services* (clause 5A.B.4) during the transition period but the *AER's* approval of the *standing offer* is not required until the transition date.

Amendment of standing offers

(h) During the transition period, the NT distributor may amend a standing offer to provide *basic connection services* or *standard connection services* during the transition period by *publishing* the

amendments and the amended text on its website. (This paragraph applies during the transition period to the exclusion of clause 5A.B.6.)

11A.2.5 References

A reference to any of the relevant provisions in a legislative or other instrument will be construed, during the transition period, as a reference to the provision as modified by this Rule.

Part C Savings and transitional rules for Chapter 7A

Note

Part C of this Chapter has no effect in this jurisdiction until 1 July 2019 (see regulation 5A of the *National Electricity (Northern Territory) (National Uniform Legislation) (Modification) Regulations*). The application of Part C will be revisited as part of the phased implementation of the *Rules* in this jurisdiction.

11A.3 Existing metering installations

(a) This rule applies in relation to a *metering installation* installed at a *connection point* on a *transmission network* or *distribution network* in this jurisdiction that is in service immediately before 1 July 2019.

(b) The following requirements must be complied with in relation to the *metering installation*:

(1) the requirements imposed on a *metering installation* at a *connection point* on a *distribution network* or *transmission network* in this jurisdiction by, under or for the purposes of a law of this jurisdiction that is in force immediately before 1 July 2019 (the **NT requirements**); and

(2) the requirements imposed in respect of the *metering installation* by the *Rules*.

(c) The requirements imposed in respect of the *metering installation* by the following provisions are taken to be complied with:

(1) clause 7A.6.2(a);

(2) clause 7A.6.3(a);

(3) clause 7A.6.4, other than paragraph (b);

(4) clause 7A.6.5;

(5) schedule 7A.1, other than clause S7A.1.3;

(6) clause S7A.3.2.2;

(7) schedule 7A.5.

(d) For the purposes of the operation of Chapter 7A in respect of the *metering installation*, a reference in:

(1) clause 7A.7.2 to “the technical requirements”;

(2) clause 7A.7.3 to "requirements of the *Rules*";

(3) clause 7A.7.4 to "schedule 7A.1" or "relevant accuracy requirement";

(4) clause 7A.8.7 to "schedule 7A.1";

(5) clause S7A.3.2.2(c) to "requirements of the *Rules*"; and

(6) Chapter 10, definition *metering installation malfunction*, to "the requirements of schedule 7A.1",

must be regarded as a reference to "the NT requirements".

(e) If the *metering installation* is replaced on or after 1 July 2019, paragraphs (b) to (d) no longer apply in respect of the *metering installation*.

15 Schedule 3 replaced

Schedule 3

repeal, insert

Schedule 3 Further modifications to operation of National Electricity Rules commencing on 1 December 2017

regulation 9

1 Rules modified

This Schedule modifies the operation of the National Electricity Rules with effect on and from 1 December 2017.

2 Clause 8.6.1A replaced

Clause 8.6.1A

repeal, insert

8.6.1A Application

For the purposes of this Part only, "*Registered Participant*" is deemed to include not just *Registered Participants* but also *Metering Providers* and *Metering Data Providers*.

3 Chapter 10 modified

Chapter 10, definition ***retail customer***

omit, insert

retail customer

Has the same meaning as in the *National Electricity Law*.

Otherwise, a person to whom electricity is sold by a *retailer*, and supplied in respect of *connection points*, for the premises of the person, and includes a person (or a person who is of a class of persons) prescribed by these *Rules* for the purposes of this definition.

Note:

In the context of Chapter 5A, the above definition has been supplemented by a definition specifically applicable to that Chapter. See clause 5A.A.1.

Schedule 4 Further modifications to operation of National Electricity Rules commencing on 1 July 2019

regulation 9A

1 Rules modified

This Schedule modifies the operation of the National Electricity Rules with effect on and from 1 July 2019.

2 Chapter 10 modified

Chapter 10, definition ***Registered Participant***

omit, insert

Registered Participant

Each of the following:

(a) a Registered participant as defined in the *National Electricity Law*;

(b) for the purposes of the *Rules*, other than Chapter 5, Part A – a *Metering Coordinator*;

(c) as set out in clause 8.6.1A, for the purposes of Chapter 8, Part C – a *Metering Provider* or *Metering Data Provider*.

16 Expiry of Regulations

These Regulations expire on the day after they commence.