ELECTRICITY INDUSTRY ACT 2004

ELECTRICITY INDUSTRY METERING CODE 2005
Approval by Minister

I, ALAN CARPENTER, Minister for Energy for the State of Western Australia, under section 39(2a) of the Electricity Industry Act 2004 hereby establish the Code contained in this instrument in respect of the matter mentioned in section 39(2)(a) of the Act, which may be cited as the “Electricity Industry Metering Code 2005”.

ALAN CARPENTER

Dated at Perth this 9th day of December 2005.
TABLE OF CONTENTS

Approval by Minister

Introduction

Part 1 – Preliminary
   1.1 Commencement
   1.2 Application
   1.3 Definitions
   1.4 Interpretation
   1.5 Inconsistency with other enactments
   1.6 Meaning of ‘publish’
   1.7 How this Code applies to multiple users
   1.8 Transitional – references to “electricity networks corporation” and “electricity retail corporation” before disaggregation

Part 2 – Code Objectives and Arms-length Treatment
   2.1 Code Objectives
   2.2 Network operator must treat associates at arms-length

Part 3 – Meters and Metering Installations
   3.1 Meters must comply with metrology procedure and National Measurement Act
   3.2 Accumulation meters
   3.3 Interval meters
   3.4 Ownership of meters and communications links
   3.5 Requirements for a metering installation
   3.6 When network operator may require facilities for remote meter reading
   3.7 Requirements for equipment connected to a telecommunications network
   3.8 Security of metering installations
   3.9 Metering installation types and accuracy requirements
   3.10 Programmable settings which affect resolution and accuracy of displayed or captured data
   3.11 Reliability of metering installations
   3.12 Metering installation design requirements
   3.13 Requirements for check metering installations
   3.14 Transitional – Metering installations commissioned prior to commencement of this Code
   3.15 Application of this Division 3.3
   3.16 Wholesale market metering installation requirements
   3.17 No transfer under the Customer Transfer Code without interval meter (for Types 1 to 5)
   3.18 Interval meter requirements (for Types 1 to 5) applicable to the Electricity Retail Corporation
   3.19 Application of this Division 3.4
   3.20 Network operator must provide enhanced technology features
   3.21 Requirements for metering installations with enhanced technology features
   3.22 Network operator must have license to metering software
   3.23 Customer signals for load management must be isolated from meter
   3.24 Application of this Code to pre-payment meters
   3.25 Requirements for pre-payment meters
   3.26 Disputes in relation to pre-payment meters
   3.27 Prohibition on installing metering installations
   3.28 Network operator may register a person to install metering installations
   3.29 Network operator must publish and update a list of registered metering installation providers

Part 4 – The Metering Database
   4.1 The metering database – general
   4.2 The metering database – the registry
   4.3 Standing data items
   4.4 Discrepancies between database and other data
   4.5 Code participants must keep the registry accurate
   4.6 Network operator must amend registry when notified of, or aware of, change or error
   4.7 Network operator must give notice of changes to standing data
   4.8 Ownership, security and rights of access to data
   4.9 Period for which energy data must be retained
Part 5 – Metering Services
5.1 Network operator to use reasonable endeavours to provide access to metering services
5.2 Unwritten service level agreement adopts model service level agreement
5.3 Network operator must read meters
5.4 Network operator must do at least one meter reading that generates an actual value per year
5.5 Charges for provision of data
5.6 Network operator must provide energy data after meter reading
5.7 Network operator must provide replacement energy data
5.8 Network operator must provide data for user’s Code of Conduct obligations
5.9 Network operator must provide standing data to users
5.10 Network operator must provide standing data to retailer
5.11 Network operator must provide standing data to incoming retailer
5.12 Current user may request energy data
5.13 Current user may request standing data
5.14 Current user may request bulk standing data
5.15 Energy data must be accompanied by meter reading date
5.16 User must provide energy data to network operator
5.17 User must provide standing data and energy data to user’s customers
5.18 User must notify network operator of change to energisation status
5.19 User must provide customer information
5.20 Energy data verification requests
5.21 Test and audit requests
5.22 Energy data – validation, substitution and estimation
5.23 Deemed actual values
5.24 Replacement of energy data with better data
5.25 Estimation and processing must maintain data quality
5.26 Network operator may correct for losses between metering point and associated connection point
5.27 Network operator may request customer details
5.28 Network operator may elect for electricity networks corporation to be metering data agent
5.29 Consequences of election
5.30 Metering data agency agreement
5.31 Ensuring that the electing network operator’s metering installations comply with this Code
5.32 Metering data agent is not an agent
5.33 Metering data agent is not a service provider
5.34 Electing network operator to reimburse the costs of the electricity networks corporation

Part 6 – Documentation
6.1 Compliance with documents
6.2 Network operator must establish documents
6.3 Transitional – Electricity networks corporation’s initial documents
6.4 Transitional – Communications before communication rules approved
6.5 Requirements for all documents
6.6 Requirements for model service level agreement
6.7 Requirements for communication rules
6.8 Requirements for a metrology procedure
6.9 Network operator may establish a registration process
6.10 Application of this Division 6.2 approval procedure
6.11 Consultation with Code participants
6.12 Authority may establish a Metering Advisory Committee
6.13 Authority may approve a document or specify amendments
6.14 Requirements for approval by Authority
6.15 “Code objective” from Access Code to be taken into account
6.16 Network operator may submit an amended document
6.17 Authority drafts its own documents
6.18 Publication of approved document
6.19 Approved document takes effect
6.20 Review and amendment of network operator’s documents
Part 7 – Notices and Confidential Information
7.1 Requirements for valid notice
7.2 Code participants
7.3 Receipt
7.4 Confidential Information
7.5 Confidentiality Obligations
7.6 Permitted Disclosure

Part 8 – Dispute Resolution
8.1 Dispute resolution procedures
8.2 Referral of disputes to the Authority
8.3 Informality and expedition
8.4 Authority may determine own procedures
8.5 Powers of Authority
8.6 Timing of dispute resolution
8.7 Written determination
8.8 Dispute resolution to be held in Perth
8.9 Authority’s determination and orders are binding
8.10 Costs of the Authority
8.11 Referral to the Authority does not affect the obligations of the parties

Part 9 – Code Amendment & review
9.1 Authority may recommend amendment

Appendix 1 – Metering installation Types and accuracy requirements in Part 3
A1.1 Metering installation types and accuracy requirements in Part 3

Appendix 2 – Validation of Data in the Metering Database
A2.1 Purpose
A2.2 Validation within the registration process for metering installations Type 1 – 5
A2.3 Validation within the registration process for installations Type 6
A2.4 Validation within the registration process for Type 7 connection points
A2.5 Validation of energy data from Type 1 to Type 5 metering installations with check metering
A2.6 Validation of energy data from Type 1 to Type 5 metering installations with partial check metering
A2.7 Validation of energy data from Type 1 to Type 5 metering installations with no check metering
A2.8 Validation of energy data from Type 6 metering installations
A2.9 Validation of energy data for Type 7 connection points
A2.10 Validation within the meter reading process for Type 5 and Type 6 metering installations

Appendix 3 – Data Substitution and Estimation
A3.1 Purpose
A3.2 Data substitution and estimation rules for Type 1 to Type 5 metering installations
A3.3 Data substitution and estimation methods for Type 1 to Type 5 metering installations
A3.4 Data substitution and estimation rules for Type 6 metering installations
A3.5 Data substitution and estimation methods for Type 6 metering installations
A3.6 Substitution and estimation rules for Type 7 connection points
A3.7 Data substitution and estimation for Type 7 connection points

Appendix 4 – Details of Available Metering Services
A4.1 Request for metering services
A4.2 Request for cancellation of a metering service order

Appendix 5 – Transitional – metering services provided by the electricity networks corporation
Introduction

(This Code is made by the Minister under section 39(2a) of the Electricity Industry Act 2004 (“Act”) in respect of the matter mentioned in section 39(2)(b) of the Act.

The Code may be amended from time to time in accordance with the procedure set out in Part 9 of this Code.

This Code aims to be:

- consistent with the Electricity Networks Access Code 2004, the Electricity Industry (Wholesale Electricity Market) Regulations 2004, and the Electricity Industry Customer Transfer Code 2004; and
- where appropriate given conditions prevailing in Western Australia, consistent with the National Electricity Rules.

This Code sets out the rights, obligations and responsibilities of Code participants associated with the measurement of electricity and the provision of metering services, the rules for the provision of metering installations at connection points, and the rules for the provision of metering services, standing data and energy data.

This Code sets out provisions relating to:

(a) Provision, ownership, installation and maintenance of meters and metering installations; (Part 3)
(b) Accuracy and specification of metering installations; (Part 3)
(c) Revenue metering installations and check metering installations used for the measurement of active energy and where appropriate, reactive energy; (Part 3)
(d) The metering database, including the registry requirements; (Part 4)
(e) Provision of and charges for metering services provided by the network operator; (Part 5)
(f) Collection, processing and provision of energy data and standing data; (Part 5)
(g) Security of, ownership and rights of access to energy data and standing data; (Part 5)
(h) Documents under this Code including model service level agreements and communication rules for the transfer of energy data and standing data to the relevant parties; (Part 6) and
(i) A dispute resolution process. (Part 8)
1.1 Commencement

(1) This Code comes into operation upon the day it is published in the Government Gazette.

(Note: under clauses 1.1(2) and 1.1(3), Part 1, Part 2, clauses 3.14, 3.15, 3.16(1) to 3.16(3), 3.17 and 3.18, Part 6, Part 7 and Part 9 of this Code and Appendix 5 to this Code come into operation on the day this Code is published in the Government Gazette.)

(2) Despite clause 1.1(1), Part 3 (other than clauses 3.14, 3.15, 3.16(1) to 3.16(3), 3.17 and 3.18 which commence under clause 1.1(1)) and Part 8 of this Code and Appendix 1 to this Code come into operation on 1 March 2006.

(3) Despite clause 1.1(1), Part 4 and Part 5 of this Code and Appendix 2 to Appendix 4 to this Code come into operation on 1 July 2006.

1.2 Application

(1) Subject to clause 3.24, this Code applies to:

(a) a network operator, to the extent that a condition of a licence under Part 2 of the Act, or of an exemption order under section 8 of the Act, requires it to comply with this Code; and

(b) a retailer to the extent that a condition of a licence under Part 2 of the Act, or of an exemption order under section 8 of the Act, requires it to comply with this Code; and

(c) a generator to the extent that a condition of a licence under Part 2 of the Act, or of an exemption order under section 8 of the Act, requires it to comply with this Code; and

(d) if the network operator has elected under clause 5.28 for the electricity networks corporation to be its metering data agent — the electricity networks corporation acting as the metering data agent; and

(e) a user who:

(i) is not a Code participant under clause 1.2(1)(b) or 1.2(1)(c); and

(ii) has an access contract at a connection point on a network of which the network operator is a Code participant; and

(Note: This clause applies to users only if the network is “covered” by this Code.)

(f) the IMO, to the extent that the market rules provide; and

(g) the Authority,

each of which is a “Code participant”.

Part 1 – Preliminary
1.3 Definitions

In this Code, unless the contrary intention is appears:

"access arrangement" has the meaning given to it in the Access Code.

(Note: At the time this Code was made, the definition in the Access Code was:
"‘access arrangement’ means an arrangement for access to a covered
network that has been approved by the Authority under this Code.")

“Access Code” means the Code made by the Minister under Part 8 of the Act.

(Note: At the time this Code was made, the Access Code was the Electricity
Networks Access Code 2004.)

“access contract” means an agreement between a network operator and a person
for the person to have ‘access’ (as defined in section 103 of the Act) to ‘services’ (as
defined in section 103 of the Act) on a network.

(Note: The person who has the contract with the network operator is called a
"user").

“accumulated energy data” is to be expressed as a measure of energy over time,
and means a measurement (including an estimated or substituted measurement) of
electricity production or consumption at a metering point, which is accumulated for a
period longer than a trading interval.

“accumulated energy register” means the visible indication displayed on an
accumulation meter, or the memory location within the meter, that records
accumulated energy data.

“accumulation meter” means a meter that measures accumulated energy data and
records it in one or more accumulated energy registers, and includes a meter with
interval energy data storage capability which is deemed to be an accumulation meter
under clause 3.2(2).

“active energy” means a measure of electricity, being the time integral of the product
of voltage and the in-phase component of electric current flow across a metering point
expressed in Watt hours (Wh) or multiples thereof.

“address attributes” has the meaning given to it in clause 5.19(2)(a).

“apparent energy” means a measure of electricity, being the time integral of the product
of voltage and the electric current flow across a metering point expressed in Volt Amp hours (VAh) or multiples thereof.

“associate” has the meaning given to it in the Access Code.

(Note: At the time this Code was made, the definition in the Access Code was:
"‘associate’, in relation to a person and subject to section 13.2 [of
the Access Code, which extends the meaning of ‘associate’ to
include any other business of the service provider], has the meaning
it would have under Division 2 of Part 1.2 of the Corporations Act
2001 of the Commonwealth if sections 13, 16(2) and 17 of that Act
were repealed, except that a person will not be considered to be an
associate of a service provider solely because that person proposes
to enter, or has entered, into a contract, arrangement or
understanding with the service provider for the provision of a covered
service."
At the time this Code was made, the following are examples of persons who are associates of a body corporate under the Corporations Act 2001 of the Commonwealth:

- a director or secretary of the body corporate; and
- a related body corporate of the body corporate; and
- another body corporate that can control or influence the composition of the board or the conduct of the affairs of a body corporate.

“Authority” means the Economic Regulation Authority established under the Economic Regulation Authority Act 2003.

“average daily consumption” for a metering point is to be expressed as a measure of energy over time, and means a measurement (including an estimated or substituted measurement) of electricity production or consumption over a period at the metering point, divided by the number of days in the period.

“bulk standing data request” has the meaning given to it in clause 5.14(1).

“business day” means any day that is not a Saturday, a Sunday or a public holiday throughout Western Australia.

“CEO negotiations” has the meaning given to it in clause 8.1(3).

“charge” in relation to a metering service, means the amount to be paid by a Code participant to the network operator for the provision of the metering service.

“check meter” means, subject to clause 3.13(5), a meter that meets the requirements of clause 3.13 and is used under this Code as a secondary source of energy data.

“check metering data” means energy data produced by a check meter.

“check metering installation” means a metering installation (or, where a partial check metering installation is permitted under clause 3.13, that part of a metering installation) which contains a check meter.

“checksum” means a single digit numeric identifier that is calculated to reduce the frequency of NMI data entry errors.


“Code objectives” has the meaning given in clause 2.1.

“Code of Conduct” means the Code made by the Minister under section 79 of the Act.

(Note: At the time this Code was made, the Code of Conduct was the Code of Conduct (For the Supply of Electricity to Small Use Customers) 2004.)

“Code participant” means a person identified in clause 1.2 of this Code.

“committed”, in clause 3.14, has the meaning given to it in clause 3.14(5).

1 If clause 5.29(b) applies, read “network operator” as “network operator or a metering data agent”.

“communication rules”, in relation to a network operator’s network, means (subject to clause 6.4) rules governing the file formats, protocols and timeframes for the communication of information and data under clause 6.7 and this Code, and between Code participants, which have been approved by the Authority under Division 6.2.

“communications link” means all communications devices and methods which comply with this Code so as to enable a meter of a metering point to be read from a remote location that lie:

(a) if the data logger is internal to the device containing the measurement elements — between the data logger and the telecommunications network; and

(b) if the data logger is external to the device containing the measurement elements but is located at the same site — between the meter and the data logger and between the data logger and the telecommunications network; and

(c) if the data logger is not located at the same site as the device containing the measurement elements — between the meter and the telecommunications network.

(Note: Clause 3.7 specifies the minimum requirements for communications devices connected to a telecommunications network.)

“confidential information” has the meaning given to it in clause 7.4.

“connect” means to attach by way of a physical link to a network and to energise the link.

“connection point”:

(a) in relation to a network that is a ‘covered network’ — has the meaning given to it in the Access Code; and

(Note: At the time this Code was made, the definition in the Access Code was:

" ‘connection point’ means a point on a covered network identified in an access contract as an entry point or exit point.”)

(b) otherwise — means a transmission connection or a distribution connection on a network, but does not include a point at which electricity is transferred between the transmission system and the distribution system, but under clause 3.24 does not include an entry point or an exit point for which the metering installation includes a pre-payment meter.

“contact details” means the notified electronic communication address, notified facsimile number, notified postal address and notified telephone number of a Code participant.

“contestable customer” means a customer that is “contestable” as defined in the Customer Transfer Code.

(Note: At the time this Code was made, the definition in the Customer Transfer Code was:

" ‘contestable’ in relation to a customer, means a customer at an exit point where the amount of electricity transferred at the exit point exceeds the amount prescribed under section 93 of the Electricity Corporation Act 1994 or under another enactment dealing with the progressive introduction of customer contestability.”)
“covered network” has the meaning given to it under the Access Code.

(Note: At the time this Code was made, the definition in the Access Code was:
"‘covered network’ means a network that is covered.”)

“CT” means a transformer for use with meters and protection devices in which the electric current in the secondary winding is, within prescribed error limits, proportional to and in phase with the electric current in the primary winding.

“current user”, for a metering point, means the user recorded as such in the registry for the metering point.

“customer” has the meaning given to it in section 3 of the Act.

(Note: At the time this Code was made, the definition in section 3 of the Act was:
“‘customer’ means a person to whom electricity is sold for the purpose of consumption.”)

“customer attributes” has the meaning given to it in clause 5.19(2)(c).

“Customer Transfer Code” means the Code made by the Minister under section 39(2a) of the Act in respect of the matter mentioned in section 39(2)(b) of the Act.

(Note: At the time this Code was made, the Customer Transfer Code was the Electricity Industry Customer Transfer Code 2004.)

“data” means energy data or standing data.

“data logger” means a metering installation database, metering database or a device that collects electronic signals from a measurement element and records interval energy data.

(Note: A data logger may contain data storage capability, it may be a separate device or be combined with the energy measuring components within one physical device or it may be a combination of the foregoing elements.)

“date for a scheduled meter reading”, for a metering point, means a date determined in accordance with the service level agreement for conducting a scheduled reading (as distinct from a special reading) of the meter at the metering point.

(Note: The date will either:
(a) be specified in a list published under clause 6.6; or
(b) be determined by applying the reading day number specified in a list published under clause 6.6.)

“day” means unless otherwise specified, the 24 hour period beginning and ending at midnight Western Standard Time (WST).

“deemed actual value” means an estimated or substituted value designated as such for a metering point under clause 5.23(1).

“designated source” has the meaning given to it in clause 4.3(2).

“device” includes equipment.

“dispute” means any dispute or difference arising in respect of any matter under or in connection with this Code between any Code participants, the subject matter of which is not also an access dispute under the Access Code, a dispute under the market
rules, a dispute or a complaint under the Code of Conduct or a dispute under the Customer Transfer Code.

(Note: Under clause 3.26 a dispute or difference arising in respect of any matter in connection with a pre-payment meter is a “dispute” for the purposes of Part 8 of this Code and the affected parties are “disputing parties” for the purposes of clause 8.1(1).)

“disputing party” has the meaning given to it in clause 8.1(1).

(Note: Under clause 3.26 a dispute or difference arising in respect of any matter in connection with a pre-payment meter is a “dispute” for the purposes of Part 8 of this Code and the affected parties are “disputing parties” for the purposes of clause 8.1(1).)

“distribution connection” means a point at which electricity is transferred to or from the distribution system.

“distribution system” has the meaning given to it in the Act.

(Note: At the time this Code was made, the definition in the Act was:

"distribution system’ means any apparatus, equipment, plant or buildings used, or to be used, for, or in connection with, the transportation of electricity at nominal voltages of less than 66kV.")

“document” means any or all of the documents listed in clause 6.2 and clause 6.9.

“electing network operator” has the meaning given to it in clause 5.28.

“electricity” has the meaning given to it in the Act.

(Note: At the time this Code was made, the definition in the Act was:

"electricity’ includes electrical energy of any kind however produced, stored, transported or consumed.")

“electricity networks corporation” means, subject to clause 1.8, the body corporate established under section 4(1)(b) of the Electricity Corporations Act 2005.

“electricity retail corporation” means, subject to clause 1.8, the body corporate established under section 4(1)(c) of the Electricity Corporations Act 2005.

“electronic”:

(a) in connection with a notice (including matters related to a notice such as an address), means (subject to the communication rules) a communication of information by means of guided or unguided electromagnetic energy, or both, by way of packet transfer between and within computer networks using the TCP/IP or other widely-accepted protocol for packet transfer; and

(b) in connection with a meter, means the transfer of information into or out of the meter by way of a telecommunications network or pulsing signals or other widely accepted communications protocols used for the transfer of data between computerised devices.

“energy” means active energy or reactive energy or both as applicable.

“energy data” means interval energy data or accumulated energy data.

“energy data verification request form” has the meaning given to it in clause 5.20(1).
“estimate” means an estimate in accordance with this Code.

“General Purpose” means the term applied by the National Measurement Institute constituted under Part 3 of the National Measurement Act to refer to the classification of a meter.

“generating plant”, in relation to a connection point, means all equipment involved in generating electricity at the connection point.

“generator” means a person who holds (or but for an exemption order under section 8 of the Act would be required by section 7 of the Act to hold) a generation licence or integrated regional licence under Part 2 of the Act for either or both of the construction and operation of generating works, and if any enactment (including regulations made under section 31A of the Electricity Corporation Act 1994) has the effect of deeming such a licence to be held by a part of the person, means that part.

{Note: The definition of ‘generator’ includes all generators but under clause 1.2, this Code only applies to certain generators.}

“good electricity industry practice” means the exercise of that degree of skill, diligence, prudence and foresight that a skilled and experienced person would reasonably and ordinarily exercise under comparable conditions and circumstances consistent with applicable enactments and statutory instruments and applicable recognised codes, standards and guidelines.

{Note: The determination of comparable conditions is to take into account factors such as the relative size, duty, age and technological status of the relevant facility and the applicable regulatory instruments.}

“IMO” means the independent market operator appointed under Part 9 of the Act.

“incoming retailer” has the meaning given to it in the Customer Transfer Code.

{Note: At the time this Code was made, the definition of incoming retailer was:

"in relation to a CTR or transfer, means the retailer that will supply a contestable customer after the transfer time".}

“instrument transformer” means either a CT or a VT.

“interval energy data” means a measurement (including an estimated or substituted measurement) of electricity production or consumption at a metering point which is accumulated for each trading interval or, if applicable under clause 3.16(3), each sub-multiple of a trading interval.

“interval meter” means a meter that measures interval energy data and records it in a data logger, and excludes a meter with interval energy data storage capability which is deemed to be an accumulation meter under clause 3.2(2).

“load” means:

(a) for a metering point, the amount of electrical energy transferred out of a network at the metering point at a specified time or across a specified period; and

(b) for a connection point, the aggregate of such loads across all metering points for the connection point.

“maintain” includes (as necessary and as applicable) renew, replace or update.
“mandatory link criteria”, in relation to a network operator’s network, means criteria under which the installation of a communications link is mandatory under clause 3.6, approved by the Authority under Division 6.2.

“market” means the wholesale electricity market established under Part 9 of the Act.

“market customer” means a rule participant registered as a market customer under clauses 2.28.10, 2.28.11 or 2.28.13 under Chapter 2 of the market rules.

“market generator” means a rule participant registered as a market generator under clauses 2.28.6, 2.28.7, 2.28.8 or 2.28.13 under Chapter 2 of the market rules.

“market participant” means a rule participant that is a market generator or a market customer.

“market rules” has the meaning given to it in the Act.

(“Note: At the time this Code was made, the definition of the Act was:

“market rules” has the meaning given in section 123(1)."

At the time this Code was made section 123(1) of the Act read:

“Without limiting section 122, the regulations are to provide for there to be rules (the “market rules”) relating to the market and to the operation of the South West interconnected system setting out or dealing with such matters as are prescribed by the regulations.”)

“measurement element” means an energy measuring component of a meter which converts electricity into either or both of:

(a) an electronic signal; and

(b) a mechanically recorded electrical measurement.

“meter” means a device complying with this Code which measures and records electricity production or consumption but under clause 3.24 does not include a pre-payment meter.

(“Note: A meter contains one or more measurement elements.”)

“Metering Advisory Committee” means the committee established by the Authority under clause 6.12.

“metering data agent” of a network operator for a network, means the electricity networks corporation appointed under clause 5.29(a) as the network operator’s metering data agent for the network.

“metering data agency agreement” means an agreement between the network operator and its metering data agent which complies with clause 5.30.

“metering database” means a database under clause 4.1(1).

“metering equipment” means a part of a metering installation and includes a meter but under clause 3.24 does not include a pre-payment meter or any part thereof.

(“Note: Metering equipment may include manual reading facilities, clocks and, where required, CTs and VTs and computing or communications devices designed to facilitate electronic access and the connections between these items. The communications link is metering equipment.”)
“metering installation” means the devices and methods for the purpose of metrology (excluding under clause 3.24 any of the devices and methods for the purpose of metrology in connection with a pre-payment meter) which lie between:

(a) at one boundary, a metering point; and

(b) at the other boundary, either:

(i) if a telecommunications network is used for the delivery of energy data from the metering point — the point of connection to the telecommunications network; or

(ii) if there is no such telecommunications network — the interface port of either the meter or data logger or both.

{Note: A metering installation may include the combination of several metering points to derive the energy data for a connection point. Alternatively, in some instances where there is more than one metering point for a connection point, each metering point will have its own metering installation.}

A metering installation must be classified as a revenue metering installation or a check metering installation.

“metering point” means:

(a) for a connection point of Type 1 to Type 6 — a point at which a revenue meter measures electricity production or consumption for the connection point; and

(b) for a connection point of Type 7 — the connection point.

{Note: A metering point for a revenue metering installation is to be located as close as possible to the connection point: clause 3.5(4).}

“metering service” means a service in connection with the measurement of electricity production or consumption, including in connection with:

(a) the provision, installation, operation and maintenance of metering equipment; and

(b) the obtaining, provision, storage and processing of data; and

(c) services ancillary to the services listed in paragraphs (a) and (b) of this definition.

“metering service order” has the meaning given in clause 6.6(1)(g) and includes a ‘customer transfer request’ as defined in the Customer Transfer Code.

{Note: At the time this Code was made, the definition in the Customer Transfer Code was:

" ‘customer transfer request’ means a request by a retailer to a network operator made using the form published under clause 4.1 to transfer a contestable customer at an exit point in the network operator’s network from one retailer to another.”}

“method” includes process, arrangement, technique or algorithm.

“metrology procedure”, in relation to a network operator’s network, means a metrology procedure under clause 6.8 and this Code, approved by the Authority under Division 6.2.
“metropolitan area” means:

(a) the region described in the Third Schedule to the *Metropolitan Region Town Planning Scheme Act 1959*; and

(b) the local government district of Mandurah; and

(c) the local government district of Murray.

(d) the townsite of Albany, in the local government district of City of Albany; and

(e) the area constituted by the townsite of Bunbury, in the local government district of City of Bunbury; and

(f) the area constituted by the townsite of Geraldton, in the local government district of City of Geraldton; and

(g) the area constituted by the townsites of Kalgoorlie and Boulder, in the local government district of City of Kalgoorlie-Boulder; and

(h) the area constituted by the townsite of Karratha, in the local government district of Shire of Ashburton; and

(i) the area constituted by the townsites of Port Hedland and South Hedland, in the local government district of Town of Port Hedland.

“model service level agreement”, in relation to a network operator’s network, means a model service level agreement under clause 6.6 and this Code, and approved by the Authority under Division 6.2.


“network” means the transmission system, distribution system or both, as applicable, operated by a network operator.

“network operator”, in relation to a network, means a person who holds (or but for an exemption order under section 8 of the Act would be required by section 7 of the Act to hold) a distribution licence, integrated regional licence or transmission licence under Part 2 of the Act for either or both of the construction and operation of the network, and if any enactment (including regulations made under section 31A of the *Electricity Corporation Act 1994*) has the effect of deeming such a licence to be held by a part of the person, means that part.

{Note: The definition of ‘network operator’ includes all network operators but under clause 1.2, this Code only applies to certain network operators.}

“NMI” means the unique identifier assigned to a metering point.

“non-regulated contract” has the meaning given to it in clause 3.18.

“notice” means a notice under 7.1 of this Code.

“notified”, in relation to a telephone number, postal address, facsimile number or electronic communication address, means notified under 7.1 of this Code.

“notify” means to give a notice.
“participant”, in clause 1.7, has the meaning given to it in that clause.

“power factor” means the ratio of the active energy to the apparent energy at a metering point.

“pre-payment meter” has the meaning given to it in the Code of Conduct.

(Note: At the time this Code was made, the definition of ‘pre-payment meter’ in the Code of Conduct was:
"‘pre-payment meter’ means a meter that requires a customer to pay for the supply of electricity prior to consumption.”)

“publish” has the meaning given to it in clause 1.6.

“reactive energy” means a measure in varhours (varh) of the alternating exchange of stored electricity in inductors and capacitors, which is the time-integral of the product of voltage and the out-of-phase component of electric current flow across a metering point.

“reading day number” for a metering point means a number specified in a list published under the service level agreement to denote on which days during a year a scheduled reading (as distinct from a special reading) of the meter at the metering point will be conducted, and the meter reading frequency.

“registered metering installation provider” means a person registered by a network operator under clause 3.28, and who has not been deregistered under the registration process.

“registration process”, in relation to a network operator’s network means a registration process under clause 6.9 and this Code, approved by the Authority under Division 6.2.

“registry” means the part of the metering database which contains standing data in accordance with this Code.

(Note: The registry is the “meter registry” referred to in the market rules.)

“regulated contract” has the meaning given to it in clause 3.18.

“related body corporate”, in relation to a body corporate, means a body corporate that is related to the first-mentioned body corporate under the Corporations Act 2001 of the Commonwealth.

“representative negotiations” has the meaning given to it in clause 8.1(1).

“retailer” means a person who holds (or but for an exemption order under section 8 of the Act would be required by section 7 of the Act to hold) a retail licence or integrated regional licence under Part 2 of the Act for the sale of electricity to customers, and if any enactment (including regulations made under section 31A of the Electricity Corporation Act 1994) has the effect of deeming the relevant licence to be held by a part of the person, means that part.

(Note: The definition of ‘retailer’ includes all retailers but under clause 1.2, this Code only applies to certain retailers.)

“revenue meter” means, subject to clause 3.13(5), a meter that is used under this Code as the source of energy data, unless this Code permits an alternative source of energy data to be used.
“revenue metering installation” means a metering installation (or, where a partial check metering installation is permitted under clause 3.13, that part of a metering installation) which contains a revenue meter.

“rule participant” means a member of the class of persons as set out in clause 2.28.1 of the market rules.

“SCADA data” means energy data the accuracy and quality of which is not required to be determined and which is obtained via a Supervisory Control and Data Acquisition system used to control and operate a network and the generating plant connected to a network.

“senior management negotiations” has the meaning given to it in clause 8.1(2). “sensitive load” means “life support equipment” (as defined in the Code of Conduct) or other electrically powered device which is medically necessary to sustain a person’s life or health.

“service level agreement” means a written or unwritten agreement that sets out the terms and conditions under which a network operator provides metering services to a user, whether or not that agreement also contains other provisions governing the parties’ rights, liabilities and obligations, and in respect of a metering point, metering installation or a metering service means the agreement which relates to, as applicable, the metering point, metering installation or metering service.

(Note: A service level agreement may be contained in an access contract.
Clause 5.2 deals with the terms of an unwritten service level agreement.)

“site attributes” has the meaning given to it in clause 5.19(2)(b).

“South West interconnected system” has the meaning given to it in the Act.

(Note: At the time this Code was made, some parts of the SWIS were owned by the Western Power Corporation and some were privately owned.
At the time this Code was made the definition in the Act was:
the interconnected transmission and distribution systems, generating works and associated works –
(a) located in the South West of the State and extending generally between Kalbarri, Albany and Kalgoorlie; and
(b) into which electricity is supplied by –
(i) one or more of the electricity generation plants at Kwinana, Muja, Collie and Pinjar; or
(ii) any prescribed electricity generation plant.

“standing data” has the meaning given to it in clause 4.3(1).

“substitute” means a substitute in accordance with this Code.

“trading interval” means a 30 minute period ending on the hour (WST) or on the half hour and, where identified by a time, means the 30 minute period ending at that time.

2 If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

“transfer”, in relation to a *customer*, has the meaning given to it in section 1.3 of the *Customer Transfer Code*.

{Note: At the time this Code was made, the definition in the *Customer Transfer Code* was:
" ‘transfer’ means a transfer from one retailer to another under this Code of rights and obligations at an exit point in connection with the supply of electricity to a contestable customer.”}

“transformer” means a device that reduces or increases alternating *voltage* or electric current.

“transmission connection” means a point at which *electricity* is transferred to or from the *transmission system*.

“transmission system” has the meaning given to it in the Act.

{Note: At the time this Code was made, the definition in the Act was:
" ‘transmission system’ means any apparatus, equipment, plant or buildings used, or to be used, for, or in connection with, the transportation of electricity at nominal voltages of 66kv or higher.”}

“Type”, in relation to a *metering installation* or *connection point*, has the meaning given in clause 3.9(1) or, if applicable, clause 3.9(2).

“user” means a person who has an *access contract*.

“validation” means validation in accordance with this *Code*.

“verification” means verification in accordance with this *Code*.

“voltage” means the electric force or electric potential between 2 points that gives rise to an electric current.

“VT” means a *transformer* for use with *meters* and protection devices in which the *voltage* across the secondary terminals is, within prescribed error limits, proportional to and in phase with the *voltage* across the primary terminals.

### 1.4 Interpretation

(1) Unless the contrary intention is apparent:

(a) A reference in this *Code* to an instrument or a provision of an instrument includes an amendment or supplement to, or replacement or novation of, the instrument or provision; and

(b) A reference in this *Code* to a person includes the person's executors, administrators, successors, substitutes and permitted assigns; and

(c) Where a word or expression is given a particular meaning, other parts of speech and grammatical forms of that word or expression have a corresponding meaning; and

(d) Where italic typeface has been applied to some words and expressions in this *Code*, it is solely to indicate that those words or expressions may be defined in clause 1.3 or elsewhere, and in interpreting this *Code* the fact that italic typeface has or has not been applied to a word or
expression is to be disregarded. Nothing in this clause 1.4(1)(d) limits
the application of clause 1.3; and

(e) Where information in this Code is set out in braces (namely “{” and “}”),
whether or not preceded by the expression “Note”, “Outline” or
“Example”, the information:

(i) is provided for information only and does not form part of this
Code; and
(ii) is to be disregarded in interpreting this Code; and
(iii) might not reflect amendments to this Code or other instruments
or enactments;

and

(f) where information in the Appendices to this Code is set out in braces
(namely “{” and “}”), whether or not preceded by the expression “Note”,
“Outline” or “Example”, the information:

(i) is provided to assist readers; and
(ii) is to be regarded accordingly in interpreting the Appendices to
this Code; and
(iii) may not reflect subsequent amendments to the Code or other
enactments or instruments,

and in the event of an inconsistency between the information and
another provision of this Code, the other provision is to prevail;

and

(g) footnotes form part of this Code and have legal effect under clause
5.29(b) and 5.30(3); and

(h) “including” and similar expressions are not words of limitation in this
Code; and

(i) a reference in this Code to “time” means Western Standard Time,
being the time at the 120th meridian of longitude east of Greenwich in
England, or Co-ordinated Universal Time, as required by the National
Measurement Act.

(2) In this Code:

(a) a reference to the connection point:

(i) “associated with” a metering point means the connection point
for which electricity production or consumption is measured at
the metering point; and
(ii) “associated with" a load means the connection point at which
the load is supplied with electricity;

and
(b) a reference to a metering point:

(i) “associated with” or “for” a connection point means a metering point at which electricity production or consumption is measured for the connection point; and

(ii) “on” a network means a metering point associated with a connection point on the network;

and

(c) a reference to the current user:

(i) “associated with”, “for” or “at” a metering point means the user which is recorded in the registry as the current user in respect of the metering point; and

(ii) “associated with”, “for” or “at” a connection point means the user which is recorded in the registry as the current user for a metering point associated with a connection point;

and

(d) a reference to a user:

(i) “associated with”, “for” or “at” a connection point means a user who has an access contract in respect of the connection point; and

(ii) “associated with”, “for” or “at” a metering point means the user at the connection point associated with the metering point;

and

(e) a reference to a customer:

(i) “associated with” a metering point means a customer who is supplied with electricity by the user associated with the metering point; and

(ii) “associated with” a connection point means a customer who is supplied with electricity by the user associated with the connection point;

and

(f) in relation to a network operator, a reference to:

(i) “its” network means the network in respect of which the network operator is the “network operator” within the meaning of clause 1.3; and

(ii) “its” metering installation means a metering installation on its network; and
(iii) “its” metering database means the metering database containing standing data and energy data for metering points on its network; and

(iv) “its” registry means the registry contained in its metering database;

and

(g) a reference to a, or the, metering installation:

(i) “for” a metering point means the metering installation which contains the meter which measures and records electricity production and consumption at the metering point; and

(ii) “for” a connection point means a metering installation for a metering point associated with the connection point; and

(iii) “on” a network means a metering installation for a connection point on the network;

and

(h) a reference to metering equipment “for” or “associated with” a metering point means the metering equipment in the metering installation for the metering point; and

(i) a reference to standing data “for” a connection point means the standing data for a metering point associated with the connection point; and

(j) a reference to energy data “for” a connection point means the energy data for a metering point associated with the connection point.

1.5 Inconsistency with other enactments

(1) For the purposes of this clause 1.5, two enactments are not inconsistent with each other merely because they prescribe different standards of conduct if a person is able to comply with both enactments by complying with the one which prescribes the highest standard of conduct.

    {Example: If one enactment permits a maximum 2% error level, and another enactment permits a maximum 1% error level, then a device with a 1% error level would comply with both enactments, and there would be no inconsistency for the purposes of this clause 1.5.}

(2) To the extent that this Code and the National Measurement Act are inconsistent, this Code does not operate to the extent of the inconsistency.

(3) To the extent that this Code and the Electricity Act 1945 or any enactment made under the Electricity Act 1945 are inconsistent, this Code does not operate to the extent of the inconsistency.

---

3 If clause 5.29(b) applies, read “its” as “its or its metering data agent’s”.
4 If clause 5.29(b) applies, read “its” as “its or its metering data agent’s”.
5 If clause 5.29(b) applies, read “its” as “its or its metering data agent’s”.
(4) To the extent that this Code and the Energy Operators (Powers) Act 1979 or any enactment made under the Energy Operators (Powers) Act 1979 are inconsistent, this Code does not operate to the extent of the inconsistency.

(5) To the extent that this Code and the Code of Conduct are inconsistent, this Code does not operate to the extent of the inconsistency.

(6) To the extent that this Code and a provision of Part 6 of, or Schedules 5 or 6 to, the Electricity Corporation Act 1994 or any enactment made under Part 6 of, or Schedules 5 or 6 to, the Electricity Corporation Act 1994 are inconsistent, this Code does not operate to the extent of the inconsistency.

1.6 Meaning of ‘publish’

If a person is required by this Code to “publish” a thing, the person must:

(a) place the thing upon an internet website under the person’s control; and

(b) if the person is the Authority — send an electronic notice to the IMO and to each Code participant who has registered with the Authority for the purposes of this clause 1.6, advising that the thing has been placed on the internet website; and

(c) if the person is the network operator\(^6\) — send an electronic notice to the Authority, each user of the network operator’s network and the IMO, advising that the thing has been placed on the internet website.

1.7 How this Code applies to multiple users

(1) This clause 1.7 applies if there is more than one user with an access contract in respect of a connection point.

(2) In such a case each user in relation to the network is referred to in this clause 1.7 as a “participant”.

(3) If this Code requires or permits something to be done by the user, that thing may be done by one of the participants on behalf of all the participants, provided that each participant complies with this Code.

(4) If a provision of this Code refers to the user bearing any costs, the provision applies as if the provision referred to any of the participants bearing any costs.

(5) If a provision of this Code refers to the user doing something, the provision applies as if the provision referred to one or more of the participants doing the thing on behalf of all the participants.

(6) If responsibility for complying with the obligations imposed by this Code on the user is allocated among them by their access contracts or their service level agreements, then each user is responsible for complying with the obligations allocated to it.

\(^6\) If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent, as applicable,”.
1.8 Transitional – references to “electricity networks corporation” and “electricity retail corporation” before disaggregation

Before bodies corporate are established under section 4(1) of the *Electricity Corporations Act 2005*, a reference in this Code to:

(a) “electricity networks corporation” means the body corporate established under section 4 of the *Electricity Corporation Act 1994* in its capacity as a network operator; and

(b) “electricity retail corporation” means the body corporate established under section 4 of the *Electricity Corporation Act 1994* in its capacity as a retailer.
Part 2 – Code Objectives and Arms-length Treatment

2.1 Code Objectives

(1) The Code objectives are to:

(a) promote the provision of accurate metering of electricity production and consumption;

(b) promote access to and confidence in data of parties to commercial electricity transactions;

(c) facilitate the operation of Part 8 and Part 9 of the Act, the Customer Transfer Code and the Code of Conduct.

(2) Code participants must have regard to the Code objectives when performing an obligation under this Code, whether or not the provision under which they are performing refers expressly to the Code objectives.

2.2 Network operator must treat associates at arms-length

(1) A network operator:7

(a) must treat all Code participants that are its associates on an arms-length basis; and

(b) without limiting clause 2.2(1)(a), must ensure that no Code participant that is its associate receives a benefit in respect of this Code, unless either:

(i) the benefit is attributable to an arm’s length application of this Code to the Code participant; or

(ii) the network operator8 also makes the benefit available to all other Code participants on the same terms and conditions.

(2) Subject to:

(a) the ‘ring-fencing objectives’ (as defined in the Access Code) and any ‘ring-fencing rules’ (as defined in the Access Code) made under the Access Code; and

(b) any regulations made under section 31A of the Electricity Corporation Act 1994,

if a network operator9 is an ‘integrated provider’ (as defined in the Access Code), a reference in clause 2.2(1) to an associate of the network operator10 does not include the integrated provider.

---

7 If clause 5.29(b) applies, read “network operator” as “network operator and a metering data agent”.
8 If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
9 If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
10 If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
Part 3– Meters and Metering Installations

Division 3.1 – Meters

3.1 Meters must comply with metrology procedure and National Measurement Act

A network operator must ensure that its meters meet the requirements specified in the applicable metrology procedure and also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act.

3.2 Accumulation meters

(1) An accumulation meter must, at least, conform to the requirements specified in the applicable metrology procedure and display, or permit access to a display of, the accumulated electricity production or consumption at the metering point using dials, a cyclometer, an illuminated display panel or some other visual means.

(2) A network operator may install a meter with interval energy data storage capability and other enhanced technology features but (by recording it as an accumulation meter in the registry) declare it to be an accumulation meter and only record the accumulated energy data registered by the meter.

(3) Despite clause 3.2(2), Division 3.4 applies in respect of the enhanced technology features of a meter.

3.3 Interval meters

(1) An interval meter must, at least, have an interface to allow the interval energy data to be downloaded to a portable hand held device or laptop computer. The interface must be compatible with the requirements specified in the applicable metrology procedure.

(2) Subject to the security protocols in clause 3.8 and the licensing requirements in clause 3.22(a), the interfaces in clause 3.3(1) may be used to install or update the operating software contained in the meter.

(3) If a metering installation is required to include a communications link, then the communications link must, where necessary, include a modem and isolation device approved under the relevant telecommunications regulations, to allow the interval energy data to be downloaded to the metering database via a telecommunications network.

10 If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

3.4 Ownership of meters and communications links

A network operator owns each meter on its network and all communications links associated with the meter despite any purported agreement to the contrary.

{Example: An agreement regarding the financial aspects of providing the metering installation may purport to make provision to the contrary to clause 3.4.}

(Note: See also clause 4.8(1) which deals with ownership of data.)

3.5 Requirements for a metering installation

(Note: A metering installation may consist of various combinations of metering equipment including:

- a CT;
- a VT;
- secure and protected wiring from the CT and the VT to the meter;
- an appropriately constructed panel on which the meter is mounted;
- an appropriately constructed panel on which the data logger is mounted;
- a facility to keep the metering installation secure from interference;
- test links and fusing;
- summation equipment; or
- one or more metering points to derive the energy data for a connection point.)

(1) A network operator must ensure that there is a metering installation at every connection point on its network which is not a Type 7 connection point.

(2) Unless it is a Type 7 metering installation, a metering installation must:

(a) contain a device which has a visible or otherwise accessible display as detailed in clause 3.2(1); and

(b) have a measurement element for active energy; and

(c) if required by Table 3 in Appendix 1, have a measurement element for reactive energy; and

(d) permit collection of data at the level of accuracy required by clause 3.9.

(3) A network operator must, for each metering installation on its network, on and from the time of its connection to the network:

(a) unless otherwise agreed between the network operator and a user, provide, install, operate and, subject to clause 3.5(7), maintain the metering installation in accordance with:

(i) this Code; and

(ii) good electricity industry practice; and

(iii) the metrology procedure for the network; and

(iv) the service level agreement between the network operator and the user in respect of the metering installation; and
(b) ensure that the metering installation complies with clause 3.9; and

(c) without limiting clause 3.5(3)(a) ensure that the metering equipment in the metering installation:

(i) is suitable for the range of operating conditions to which it will be exposed (e.g. temperature, impulse levels); and

(ii) operates within the defined limits for that metering equipment as specified in the approved metrology procedure.

(4) Except for a Type 7 metering installation, a network operator must ensure that the metering point for a revenue metering installation is located as close as practicable in accordance with good electricity industry practice to the connection point.

(5) If there is no written service level agreement in place between the network operator and the user in respect of the provision, installation, operation or maintenance of a metering installation, the network operator or the user may require the other to negotiate and enter into a written service level agreement in respect of (as applicable) the provision, installation, operation or maintenance, in accordance with clause 5.1.

{Note: If there is no written service level agreement, any metering services provided will be governed by an unwritten service level agreement under clause 5.2.}

(6) A network operator may only impose a charge for providing, installing, operating or maintaining a metering installation in accordance with the applicable service level agreement between it and the user.

(7) Unless otherwise agreed, a network operator is not required to maintain any metering equipment owned by user or user’s customer.

{For example: Equipment owned by the user or its customer might include CTs, meter panels and secondary wiring installed as part of a switchboard.}

(8) Nothing in this clause 3.5 limits a network operator’s responsibility under any other enactment or agreement in relation to a metering installation prior to the time of its connection to the network.

(9) If the network operator becomes aware that a metering installation does not comply with this Code, the network operator must:

(a) advise affected parties of the non-compliance; and

(b) arrange for the non-compliance to be corrected as soon as practicable following the network operator becoming aware of.

3.6 When network operator may require facilities for remote meter reading

A network operator may in accordance with its mandatory link criteria require the installation of a communications link (in circumstances in addition to those required under clause 3.16(2)).
3.7 Requirements for equipment connected to a telecommunications network

All devices that may be connected to a telecommunications network must:

(a) be compatible with the telecommunications network; and

(b) comply with all applicable State and Commonwealth enactments.

(Note: for example, devices connected to a telecommunications network must be approved by the Australian Communications Authority established under the Australian Communications Authority Act 1997 of the Commonwealth.)

3.8 Security of metering installations

Subject to clause 3.27, a network operator must, for each metering installation on its network, ensure that the metering installation is secured by means of devices or methods which, to the standard of good electricity industry practice, hinder unauthorised access to the metering installation and enable unauthorised access to be detected.

(Note: Energy data held in a network operator’s metering installation must be secured in accordance with clauses 4.8(4)(a) and 4.8(5).)

3.9 Metering installation types and accuracy requirements

(1) Subject to clause 3.9(2), the “Type” for a connection point (and for a metering installation for the connection point) is shown in the first column in Table 3 in Appendix 1, on the row in which the connection point’s annual load is shown in the second column.

(2) A connection point is Type 7 if it is associated with one or more of the following loads:

(a) street, traffic, park, community, or security lighting; or

(b) ticket issuing machines, parking meters, or community watering systems; or

(c) telephone service requirements; or

{Example: Telephone service requirements may include telephone boxes, fibre optic cable routers and devices that connect pay television services.}

(d) loads consuming less than the starting electric current of a meter; or

(e) other loads of a similar nature.

(3) Subject to clauses 3.9(4), 3.9(5) and 3.9(7), each metering installation must meet at least the requirements for that Type of metering installation specified in Table 3 in Appendix 1.

(Note: Without limiting clause 3.9(3), a network operator must ensure that the incidence and magnitude of burden changes on any secondary winding supplying its metering installation do not cause the accuracy of the metering installation to fail to meet the requirements of Table 3 in Appendix 1 for that Type of metering installation.)

(4) A network operator (acting in accordance with good electricity industry practice) may determine that the maximum allowable clock error for a Type 4 or Type 5 metering installation is to be greater than that specified in Table 3 in...
Appendix 1 in order to accommodate evolving whole-electric current technologies, providing that such relaxation is consistent with the Code objectives.

(Note: Under clause 1.5 this ability to relax the clock error will be subject to the National Measurement Act and other enactments.)

(5) A network operator (acting in accordance with good electricity industry practice) may determine that the maximum allowable clock error for a Type 6 metering installation is greater than that specified in Table 3 (read with Table 4 to Table 7 in Appendix 1) providing that such relaxation is consistent with the Code objectives.

(Note: Under clause 1.5 this ability to relax the clock error will be subject to the National Measurement Act and other enactments.)

(6) Subject to clause 3.1, to use direct connected meters may be used for Type 4 to Type 6 metering installations it is acceptable.

(7) For a metering installation used to supply a customer with requirements above 1000 volts that require a VT and whose annual consumption is below 750 MWh, the metering installation must meet the relevant accuracy requirements of Type 3 metering installation for active energy only.

(Note: The 1000 volt limit derives from Australian Standard 3000-2000.)

(8) For the purposes of this clause 3.9, the method for calculating the overall error of a metering installation is the vector sum of the errors of each component part, i.e. \( a + b + c \), where:

\[ a = \text{the error of the VT and wiring} \]
\[ b = \text{the error of the CT and wiring} \]
\[ c = \text{the error of the meter}. \]

(9) If compensation is carried out within the meter then the resultant metering system error must be as close as practicable to zero.

(10) All measurements in Table 3 in Appendix 1 are to be referred to 25 degrees Celsius.

3.10 Programmable settings which affect resolution and accuracy of displayed or captured data

A network operator\(^ {11} \) must ensure that any programmable settings within any of its metering installations, data loggers or peripheral devices, that may affect the resolution of displayed or stored data, meet the relevant requirements specified in the applicable metrology procedure and comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act.

\(^ {11} \) If clause 5.29(b) applies, read “network operator” as “network operator and a metering data agent”.

3.11 Reliability of metering installations

(1) A network operator must ensure that a metering installation on its network permits collection of data:

(a) within the time specified in the applicable service level agreement at a level of availability of at least 99% per annum for instrument transformers and other components of the metering installation, not including the communications link; and

(b) if the metering installation has a communications link, within the time specified in the applicable service level agreement at a level of availability of at least 95% per annum for the communications link.

(2) If an outage or malfunction occurs to a metering installation, the network operator must (subject to clause 3.5(7)) make repairs to the metering installation in accordance the applicable service level agreement.

(3) A Code participant who becomes aware of an outage or malfunction of a metering installation must advise the network operator as soon as practicable.

3.12 Metering installation design requirements

(1) A network operator must ensure that each metering installation complies with at least the following requirements:

(a) the CT core forming part of the revenue metering installation must not be used for any purpose other than revenue metering and check metering;

(b) the CT secondary wiring forming part of the revenue metering installation must not be used for any other purpose;

(c) subject to clause 3.13(3), the CT secondary wiring forming part of a check metering installation must not be used for other purpose (e.g. local metering, indication or protection) unless with the written approval of the network operator, which must not be unreasonably withheld; and

   \{Note: If the conditions of clause 3.13(3) apply, network operator’s written approval is not required under this clause 3.12(1)(c).\}

(d) if a VT is required and separate secondary windings are not provided, then the voltage supply to each revenue metering installation and check metering installation must be separately fused and located in an accessible position as near as practicable to the VT secondary winding; and

(e) if more than one VT is available, a voltage changeover scheme must be provided; and

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

(2) A network operator must ensure that instrument transformers in its metering installations comply with the relevant requirements of any applicable specifications or guidelines (including any transitional arrangements) specified
by the National Measurement Institute under the National Measurement Act and any requirements specified in the applicable metrology procedure.

(3) A network operator must provide isolation facilities, to the standard of good electricity industry practice, to facilitate testing and calibration of the metering installation.

(4) A network operator must maintain drawings and supporting information to the standard of good electricity industry practice, detailing the metering installation for maintenance and auditing purposes.

3.13 Requirements for check metering installations

(1) A network operator must procure the user or the user’s customer to install (or arrange for the installation of) a full check metering installation or partial check metering installation in accordance with the requirements set out in Table 1.

<table>
<thead>
<tr>
<th>Type</th>
<th>Energy (GWh pa) per metering point</th>
<th>Check Metering Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>greater than 1000</td>
<td>Full check metering installation</td>
</tr>
<tr>
<td>2</td>
<td>100 to 1000</td>
<td>Partial check metering installation</td>
</tr>
<tr>
<td>3</td>
<td>0.75 to less than 100</td>
<td>No requirement</td>
</tr>
<tr>
<td>4, 5, and 6</td>
<td>Less than 0.75</td>
<td>No requirement</td>
</tr>
</tbody>
</table>

(2) A full check metering installation is a metering installation separate from the revenue metering installation, using separate CT cores and separately fused VT secondary circuits supplied from separate secondary windings.

(3) A partial check metering installation:

(a) may be supplied from secondary circuits used for other purposes; and

   {Note: If this clause 3.13(3) applies, then a partial check metering installation may be supplied from secondary circuits used for other purposes without the written approval of the network operator as required under clause 3.12(1)(c).}

(b) may involve the use of other energy data or SCADA data for trading intervals available to the network operator in electronic format as part of a validation process; and

(c) must be physically arranged in a manner determined by the network operator, acting in accordance with good electricity industry practice.

(4) A check metering installation for a metering point:

(a) must not exceed twice the error level permitted under clause 3.9 for the revenue metering installation for the metering point; and

(b) must be connected in such a way that it measures the same load conditions as the revenue metering installation for the metering point; and

12 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(c) must be otherwise consistent with the requirements of Table 3 in Appendix 1 and clause 3.12(1)(c).

{Note: See also clause 3.12(1) which deals with what may be common between revenue metering and check metering.}

(5) Where a check metering installation for a metering point satisfies the requirements under this Code for a revenue metering installation for the metering point, the average of the 2 validated data sets may be used to determine the energy measurement.

3.14 Transitional – Metering installations commissioned prior to commencement of this Code

(1) Nothing in this Code requires a Code participant to upgrade, modify or replace a metering installation or any part of a metering installation which was commissioned before this clause 3.14 commenced.

(2) Subject to clauses 3.14(3) and 3.14(4), nothing in this Code requires a Code participant to upgrade, modify or replace a metering installation or any part of a metering installation which was committed to before this clause 3.14 commenced and commissioned no later than 18 months after this clause 3.14 commenced.

{Note: For example:

- Type 1 metering installations and Type 2 metering installations commissioned or committed to before this clause 3.14 commenced that do not incorporate check metering installations are not required to install check metering installations retrospectively.

- Type 3 metering installations and Type 4 metering installations commissioned or committed to before this clause 3.14 commenced that are not equipped with a communications link are not required to have a communications link installed retrospectively.}

(3) If under clause 3.14(2) a metering installation uses metering class CTs and VTs that do not comply with Table 3 in Appendix 1, then the network operator must either or both:

(a) install meters of a higher class accuracy; and

(b) apply accuracy calibration factors within the meter to compensate for CT and VT errors,

in order to achieve the overall accuracy requirements set out in Table 3 in Appendix 1.

(4) If under clause 3.14(2) a metering installation does not contain suitable metering class CTs at an appropriate location in the circuit, then the network operator may use protection CTs but the metering installation must still comply with Table 3 in Appendix 1.
Subject to clause 3.14(6), a person has “committed” to a metering installation if the person, intending to install or upgrade a metering installation, begins to put their intention into effect by doing an act which is more than merely preparatory to undertaking the installation or upgrade by:

(a) making a substantial financial commitment in respect of the installation or upgrade of the metering installation, such as committing to:

(i) a significant obligation which is legally binding; or

(ii) an obligation which would have significant commercial repercussions if cancelled, discontinued or dishonoured;

or

(b) commencing, or procuring the commencement of, the installation or upgrade of the metering installation.

A person will not be considered to have committed to a metering installation merely because the person has:

(i) undertaken preparatory system or other studies in respect of the installation or upgrade of the metering installation; or

(ii) engaged in preparatory planning, design or costing activities in respect of the installation or upgrade of the metering installation; or

(iii) obtained an approval in respect of the installation or upgrade of the metering installation, unless the approval comes within the description in clauses 3.14(5)(a) or 3.14(5)(b).

---

**Division 3.3 — Metering Requirements for the Wholesale Electricity Market and Customer Transfer**

### 3.15 Application of this Division 3.3

This Division 3.3 applies to the network described in Part 9 of the Act.

### 3.16 Wholesale market metering installation requirements

(1) The network operator, must ensure that a Type 1 metering installation to Type 5 metering installation on the network:

(a) has electronic data recording facilities to measure and record internal energy data; and

(b) is capable of separately registering and recording flows in each direction if bi-directional electricity flows occur; and

(c) includes facilities on site for storing the interval energy data for a period of at least 35 days from and including the day that data is first recorded.
(2) The network operator must ensure that a Type 1 metering installation to Type 4 metering installation on the network includes a communications link.

(3) If a device is used as a data logger, the energy data for a metering point on the network must be collated in trading intervals within the metering installation unless it has been agreed between the network operator and the Code participant that energy data may be recorded in sub-multiples of a trading interval.

(4) The metrology procedure for the network must specify how the network operator is to produce the “Notional Wholesale Meter” value for the purposes of, and as defined in, the market rules.

   {Note: At the time this Code was made, the definition in the market rules was:
   "‘Notional Wholesale Meter’ means a notional interval meter quantity associated with a Market Customer’s aggregate non-interval meter consumption. This value will be an estimate produced by the relevant Metering Data Agent.”}

(5) If there is no written service level agreement in place between the network operator and the user in respect of the matters in the metrology procedure dealt with under clause 3.16(4), then the network operator or the user may require the other to negotiate and enter into a written service level agreement in respect of those matters.

   {Note: If there is no written service level agreement, any metering services provided will be governed by an unwritten service level agreement under clause 5.2.}

(6) A network operator may only impose a charge for the matters dealt with in the metrology procedure under clause 3.16(4) in accordance with the applicable service level agreement between it and the user.

3.17 No transfer under the Customer Transfer Code without interval meter (for Types 1 to 5)

For the purposes of clause 4.9(1)(c) of the Customer Transfer Code, a customer associated with a connection point may not transfer under the Customer Transfer Code unless the metering installation at each metering point for the connection point complies with clause 3.16.

   {Note: In accordance with clause 3.14(1), this Code does not compel the installation of an interval meter. However, the practical outworking of this clause 3.17 and the Customer Transfer Code is that if the metering installation at the metering point for the connection point does not contain an interval meter in accordance clause 3.16, then the customer associated with the connection point may not transfer under the Customer Transfer Code.}

---

13 If clause 5.29(b) applies, read “network operator” as “network operator, metering data agent”.
14 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
15 If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
16 If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
17 If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
3.18 Interval meter requirements (for Types 1 to 5) applicable to the Electricity Retail Corporation

(1) If the electricity retail corporation supplies electricity to a contestable customer at a connection point:

(a) under a non-regulated contract; and

(b) in circumstances where immediately before entering into the contract, the electricity retail corporation supplied electricity to the contestable customer under a regulated contract,

then the metering installation for the connection point must comply with clause 3.16.

(2) In this clause 3.18:

“non-regulated contract” means a contract other than a regulated contract; and

“regulated contract” means:

(a) a “standard form contract” as defined in section 47 of the Act; or

(b) a contract referred to in section 55(6) of the Act between the electricity retail corporation and a customer (including a customer who consumes more than 160 MWh of electricity per annum); or

(c) a contract in the form of a “prescribed form of contract” (as defined in section 55 of the Act) entered into by the electricity retail corporation and a customer (including a customer who consumes more than 160 MWh of electricity per annum) other than a contract referred to in paragraph (b) of this definition.

(Note: After clause 31 of Schedule 1 to the Energy Corporations Act 2005 commences, references in this definition to section 55 of the Act will be read as references to section 54A of the Act.)

Division 3.4 – Enhanced Technology Features of Metering Installations

(Note: This Division 3.4 details the additional requirements that apply to meters and metering installations with enhanced technology features. The requirements in this Division 3.4 apply in addition to the general metering requirements contained in Part 3.

Code participants and the network operator may agree to use any evolving technologies, whether or not those technologies have enhanced features, provided that the agreed evolving technology meets or exceeds the performance and functional requirements of this Code.)

(Examples: Meters with enhanced technology features may include any one or more of the following:

• solid state electronic measurement elements; or

• internal real time clock; or
• software that enables the network operator to develop and upload tariff schedules as required by a user; or
• multiple registers for accumulated Wh, on-peak Wh, off-peak Wh, VAh, VARh, kW, kVA; or
• bi-directional (multi quadrant) energy measurement; or
• interval energy data storage device (referred to as a data logger); or
• load control equipment; or
• externally generated tariff switching inputs (the external clock must meet the same accuracy levels as would apply to an internal clock – see 3.21(1)); or
• customer signals for load management; or
• communications link for remote reading; or
• pre-payment facilities.

Metering installations with enhanced technology features may include any one or more of the following:
• a meter and a data logger that may be either internal or external to the meter; or
• subject to 3.7, a meter with an interface to allow the interval energy data to be downloaded to a remote location via a telecommunications network; or
• communications link equipment such as a modem, isolation equipment, telephone service, radio transmitter and data link equipment; or
• one or more communications links; or
• auxiliary electricity supply to the meter; or
• an alarm circuit and monitoring facility.

### 3.19 Application of this Division 3.4

(1) This Division 3.4 applies in addition to the general metering requirements contained in Part 3.

(2) The specific requirements contained in clause 3.21 apply only to each enhanced technology feature as may be provided in a metering installation.

### 3.20 Network operator must provide enhanced technology features

(1) A network operator must, if reasonably requested by a Code participant, provide enhanced technology features in a metering installation.

(2) If there is no written service level agreement in place between the network operator and the user in respect of the provision of metering installations with enhanced technology features, the network operator or the user may require the other to negotiate and enter into a written service level agreement in respect of the provision of metering installations with enhanced technology features.

   {Note: If there is no written service level agreement, any metering services provided will be governed by an unwritten service level agreement under clause 5.2.)

(3) A network operator may only impose a charge for the provision of metering installations with enhanced technology features in accordance with the applicable service level agreement between it and the user.
3.21 Requirements for metering installations with enhanced technology features

(Note: In addition to the requirements in this clause 3.21, meters with an internal data logger must comply with the requirements in clause 3.3.)

(1) Meters containing an internal real time clock must maintain time accuracy as shown in Table 3 in Appendix 1 for each Type of metering installation. Time drift must be measured over a period of 1 month.

(Note: A Type 6 metering installation contains an accumulation meter and therefore no real time clock.)

(2) If a metering installation includes measurement elements and an internal data logger at the same site and:

(a) a communications link has been installed – must include facilities on site for storing the interval energy data for a period of at least 35 days from and including the day that data is first recorded; or

(b) a communications link has not been installed – must include facilities on site for storing the interval energy data for a period of at least 200 days from and including the day that data is first recorded.

3.22 Network operator must have license to metering software

A network operator providing one or more metering installations with enhanced technology features must:

(a) be licensed to use and access the metering software applicable to all devices being installed; and

(b) be able to program the devices and set parameters, including ‘read only’ and ‘write’ passwords.

3.23 Customer signals for load management must be isolated from meter

Where signals are provided from the meter for the user or the user’s customer use:

(a) the network operator must ensure that the signals are isolated by relays or electronic buffers to prevent accidental or malicious damage to the meter; and

(b) the network operator\(^{18}\) must provide the user or the user’s customer with sufficient details of the signal specification to enable the user or the user’s customer to comply with clause 3.23(c); and

(c) customer must ensure that a device to be connected to the signal output is compatible with the signal.

Division 3.5 – Pre-payment meters

(Note: Under clause 1.2, a person is not a Code participant for the purposes of this Code in respect of any matter in connection with a pre-payment meter.)

\(^{18}\) If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

3.24 **Application of this Code to pre-payment meters**

Except to the extent that this Division 3.5 provides otherwise, nothing in this Code applies in connection with a pre-payment meter.

3.25 **Requirements for pre-payment meters**

If a network operator operates and maintains a pre-payment meter on its network, the network operator must:

(a) operate and maintain the pre-payment meter in accordance with good electricity industry practice; and

(b) as far as reasonably practicable, minimise any departure from what the requirements of this Code would have been in respect of the pre-payment meter if clause 3.24 were deleted.

3.26 **Disputes in relation to pre-payment meters**

Despite clause 3.24, a dispute or difference arising in connection with a pre-payment meter is a “dispute” for the purposes of Part 8 of this Code, and the affected parties are “disputing parties” for the purposes of clause 8.1(1).

**Division 3.6 – Registered Metering Installation Providers**

3.27 **Prohibition on installing metering installations**

(1) A person must not install a metering installation on a network unless the person is:

(a) the network operator; or

(b) a registered metering installation provider for the network operator doing the type of work authorised by its registration.

(2) Nothing in clause 3.27(1) limits the other approvals and authorisations which a person may need to install a metering installation.

3.28 **Network operator may register a person to install metering installations**

A network operator may register or deregister a person to undertake some or all of the activities relating to the installation of metering installations:

(a) under a registration process established under clause 6.9; and

(b) in respect of all or only a sub-set of the installation work.
3.29 **Network operator must publish and update a list of registered metering installation providers**

A network operator must:

(a) *publish* a list of *registered metering installation providers* which includes details on the type of work each *registered metering installation provider* is authorised to carry out; and

(b) at least annually, update the list referred to in clause 3.29(a).
Part 4 –The Metering Database

4.1 The metering database – general

(1) A network operator must establish, maintain and administer a “metering database” containing, for each metering point on its network:

(a) standing data for the metering point; and

(b) energy data for the metering point, being:

(i) if the metering point has an accumulation meter — accumulated energy data; or

(ii) if the metering point has an interval meter — interval energy data.

(2) A network operator must ensure that its metering database and its associated links, circuits and information storage and processing systems are secured by means of devices or methods which, to the standard of good electricity industry practice, hinder unauthorised access to the metering database and its associated links, circuits and information storage and processing systems and enable unauthorised access to be detected.

(Note: Data held in a network operator’s metering database must be secured in accordance with clauses 4.8(4)(b) and 4.8(5).)

(3) A network operator must prepare, and if applicable must implement a disaster recovery plan to ensure that it is able, within 2 business days after the day of any disaster, to:

(a) rebuild the metering database; and

(b) provide energy data to the Code participants after the disaster (including energy data for any days during which the network operator was affected by the disaster).

4.2 The metering database – the registry

(Note: The registry forms part of the metering database and holds standing data for metering points that may be used when determining the validity and accuracy of energy data. The communication rules developed under Part 6 of this Code contain the complete set of standing data attributes.)

(1) A network operator must ensure that its registry complies with this Code and clause 8.3.1 of the market rules.

---

19 If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.
20 If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.
21 If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.
22 If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.
23 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(2) The purpose of the registry is to facilitate:

(a) the registration of metering points; and
(b) the provision of metering services; and
(c) the verification of compliance with this Code; and
(d) the auditable control of changes to standing data.

4.3 Standing data items

(1) The “standing data” for a metering point must (subject to clause 4.3(3)) comprise at least the items specified in Table 2:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information</th>
<th>Designated source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>details of the address of the metering point in a format specified in the communications rules</td>
<td>network operator</td>
</tr>
<tr>
<td>2.</td>
<td>substation name</td>
<td>network operator</td>
</tr>
<tr>
<td>3.</td>
<td>the length of network between the metering point and the substation</td>
<td>network operator</td>
</tr>
<tr>
<td>4.</td>
<td>voltage at metering point</td>
<td>network operator</td>
</tr>
<tr>
<td>5.</td>
<td>distribution loss factor</td>
<td>network operator</td>
</tr>
<tr>
<td>6.</td>
<td>network tariff description</td>
<td>network operator</td>
</tr>
<tr>
<td>7.</td>
<td>location of the metering equipment on the site and reference details (eg drawing numbers)</td>
<td>network operator</td>
</tr>
</tbody>
</table>
| 8.   | either:
   (a) last and next date for a scheduled meter reading; or
   (b) reading day number,
   as specified in the model service level agreement. | network operator
| 9.   | whether or not the customer associated with the metering point is a contestable customer | network operator |
| 10.  | site identification names | network operator |

---

24 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
<table>
<thead>
<tr>
<th>Item</th>
<th>Information</th>
<th>Designated source</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>(a) details in accordance with the communication rules of the user which is the “current user” for the metering point; and&lt;br&gt;(b) except in the case of the user who was the current user for the metering point at the time this clause 4.3 commenced—the transfer date on which the user became the current user; and&lt;br&gt;(c) a change history enabling the determination of which user was the current user for any day after the time this clause 4.3 commenced</td>
<td>network operator</td>
</tr>
</tbody>
</table>

The identity and characteristics of metering equipment (ie instrument transformers, revenue metering installation and check metering installation), at the metering point including:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information</th>
<th>Designated source</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>meter type</td>
<td>network operator</td>
</tr>
<tr>
<td>13.</td>
<td>meter serial numbers</td>
<td>network operator</td>
</tr>
<tr>
<td>14.</td>
<td>NMI</td>
<td>network operator</td>
</tr>
<tr>
<td>15.</td>
<td>status (energised or de-energised)</td>
<td>network operator</td>
</tr>
<tr>
<td>16.</td>
<td>metering installation Type</td>
<td>network operator</td>
</tr>
<tr>
<td>17.</td>
<td>instrument transformer connected ratio</td>
<td>network operator</td>
</tr>
<tr>
<td>18.</td>
<td>reference to current test and calibration programme details, test results and test certificates</td>
<td>network operator</td>
</tr>
<tr>
<td>19.</td>
<td>calibration tables, where applied to achieve metering installation accuracy in accordance with the accuracy requirements in Table 3 in Appendix 1</td>
<td>network operator</td>
</tr>
<tr>
<td>20.</td>
<td>summation scheme values and multipliers</td>
<td>network operator</td>
</tr>
<tr>
<td>21.</td>
<td>data register coding details</td>
<td>network operator</td>
</tr>
</tbody>
</table>

Data communication details in respect of the metering point, including:

<table>
<thead>
<tr>
<th>Item</th>
<th>Information</th>
<th>Designated source</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.</td>
<td>telephone numbers for access to data</td>
<td>network operator</td>
</tr>
<tr>
<td>23.</td>
<td>communication device type and serial numbers</td>
<td>network operator</td>
</tr>
<tr>
<td>24.</td>
<td>communication protocol details or references</td>
<td>network operator</td>
</tr>
<tr>
<td>25.</td>
<td>user identification and access rights</td>
<td>network operator</td>
</tr>
<tr>
<td>26.</td>
<td>'write' password (to be contained in a hidden or protected field)</td>
<td>network operator</td>
</tr>
</tbody>
</table>

---

25 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
26 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
27 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
28 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
29 If clause 5.29(b) applies, read “network operator” as “metering data agent”.

27. algorithms                   network operator
28. data comparison techniques  network operator
29. processing of alarms (e.g., voltage source limits; phase-angle limits) network operator
30. check metering compensation details network operator

(2) In clause 4.3(1), “designated source” means the person responsible for providing the information to the network operator, not necessarily the person who is the originating source of the information.

(Note: Although at the time this clause 4.3 commenced, the network operator is designated as the designated source for all of the items of standing data listed in Table 2, the designation of a designated source for each item of standing data is intended to allow for the operation of clause 4.3(3) under which, for example, new items of standing data may be required in the registry and for which the network operator may not be the designated source.)

(3) The communication rules may remove, modify or add to any requirement in clause 4.3(1) for the standing data.

4.4 Discrepancies between database and other data

(1) If there is a discrepancy between energy data held in a metering installation and data held in the metering database:

(a) the affected Code participants and the network operator must liaise together to determine the most appropriate way to resolve the discrepancy; and

(b) for the purposes of this Code and in the absence of manifest error the data in the metering installation is to be taken as prima facie evidence of the metering point’s energy data.

(2) If there is a discrepancy between standing data held in a registry and the same category of information in any other database, then for the purposes of this Code and in the absence of manifest error the standing data recorded in the registry is deemed to be correct.

29 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
30 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
31 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
32 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
33 If clause 6.20(1)(b) applies, read “network operator” as “network operator and its metering data agent”.
34 If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

4.5 **Code participants must keep the registry accurate**

(1) A *Code participant* must not knowingly permit the *registry* to be materially inaccurate.

(2) Subject to clause 5.19(6), if a *Code participant* other than the *network operator*\(^{35}\) becomes aware of a change to, or an inaccuracy in an item of *standing data* in the *registry*, then it must as soon as practicable and in any event (unless clause 5.19(4) applies) no later than 2 *business days* (or such other time as is specified in the applicable *service level agreement*) after the day it becomes aware of the change or inaccuracy notify the *network operator*\(^{36}\) and provide details of the change to or inaccuracy in the item of *standing data*.

   {Example: *Standing data* values may change as a result of rectification of errors (including reversing an “erroneous transfer” under the *Customer Transfer Code*), field work or other activities.}

4.6 **Network operator must amend registry when notified of, or aware of, change or error**

(1) If the *network operator*\(^{37}\) is notified of a change to or inaccuracy in an item of *standing data* by a *Code participant* which is the *designated source* for the item of *standing data* under Table 2 in clause 4.3(1), then the *network operator*\(^{38}\) must update the *registry* to reflect the change to, or correct the inaccuracy in, the *standing data*.

(2) If the *network operator*\(^{39}\):

   (a) is notified of a change to or inaccuracy in an item of *standing data* by a *Code participant* which is not the *designated source* for the item of *standing data* under Table 2 in clause 4.3(1); or

   (b) otherwise becomes aware of a change to or inaccuracy in an item of *standing data*,

then the *network operator*\(^{40}\) must

   (c) undertake investigations to the standard of *good electricity industry practice* to determine whether the *registry* should be updated; and

   (d) if it determines that the *registry* should be updated, update the *registry* to reflect the change to, or correct the inaccuracy in, the *standing data*.

---

\(^{35}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{36}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{37}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{38}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{39}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{40}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.
4.7 Network operator must give notice of changes to standing data

If any affected a user for a metering point would otherwise be entitled to the updated standing data for the metering point under this Code, the network operator\textsuperscript{41} must notify such affected the user of the updated standing data within 2 business days (or such other time as is specified in applicable service level agreement) after updating the registry under clause 4.6.

\{Example: On creation of standing data (e.g. in the event of a new connection) or when any of a metering point’s standing data values in its registry change, the network operator must inform the current user for the metering point of details of the changes to the standing data within 2 business days (or such other time as is specified in applicable service level agreement) after updating the attributes in its registry.\}

4.8 Ownership, security and rights of access to data

(1) A network operator, in relation to a metering point on its network:

(a) owns the energy data in the meter for the metering point; and

(b) owns the energy data obtained from the meter and the standing data for the metering point; and

(c) owns the data for the metering point held in its\textsuperscript{42} records whether in written or electronic form; and

(d) has a right to access the data for the metering point in its\textsuperscript{43} databases and records.

(2) Clause 4.8(1) applies despite any purported agreement to the contrary.

\{Example: An agreement regarding the financial aspects of providing metering services may purport to make provision to the contrary to clause 4.8(1).\}

\{Note: See also clause 3.4 which deals with ownership of data.\}

(3) A network operator\textsuperscript{44} must allow a user who supplies, purchases or generates electricity to have local and (where a suitable communications link is installed) remote access to the energy data for metering points at its associated connection points, using a ‘read only’ password provided by the network operator\textsuperscript{45}.

(4) A network operator\textsuperscript{46} must have devices and methods in place that:

(a) ensure that energy data held in its metering installation is secured from unauthorised local access or remote access, by electronic password and electronic security controls which are sufficient to the standard of good electricity industry practice; and

\[\text{footnotes}\]

\textsuperscript{41} If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\textsuperscript{42} If clause 5.29(b) applies, read “its” as “its, and its metering data agent’s,”.

\textsuperscript{43} If clause 5.29(b) applies, read “its” as “its, and its metering data agent’s,”.

\textsuperscript{44} If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\textsuperscript{45} If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\textsuperscript{46} If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(b) ensure that data held in its metering database is secured from unauthorised local access or remote access, by electronic password, electronic security controls and software or hardware encryption technologies, sufficient to the standard of good electricity industry practice.

(5) Without limiting clause 4.8(4), a network operator\(^{47}\) must:

(a) ensure that (except as specified in clause 4.8(3)) electronic passwords and other electronic security controls are only issued to:

(i) authorised personnel of the network operator\(^{48}\), and

(ii) where a registered metering installation provider has been authorised under its registration to perform work requiring meter programming access — authorised personnel of the registered metering installation provider, and

(b) otherwise keep its records of electronic passwords and other electronic security controls secure from unauthorised access.

4.9 Period for which energy data must be retained

A network operator\(^{49}\) must retain energy data in its metering database for each metering point on its network:

(a) for at least 13 months from the date when the data was obtained — in a readily accessible format; and

(b) after that period for at least a further 5 years and 11 months — in a format that is accessible within a reasonable period of time.

\(^{47}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".

\(^{48}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".

\(^{49}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".
Part 5 – Metering Services

Division 5.1 — Metering services generally

5.1 Network operator to use reasonable endeavours to provide access to metering services

(1) A network operator must use all reasonable endeavours to accommodate another Code participant’s:

(a) requirement to obtain a metering service; and
(b) requirements in connection with the negotiation of a service level agreement.

(2) Without limiting clause 5.1(1), a network operator must:

(a) expeditiously and diligently process all requests for a service level agreement; and
(b) negotiate in good faith with a Code participant regarding the terms for a service level agreement; and
(c) to the extent reasonably practicable in accordance with good electricity industry practice, permit a Code participant to acquire a metering service containing only those elements of the metering service which the Code participant wishes to acquire.

(3) This clause 5.1 does not limit the Access Code, and, in the event of any conflict or inconsistency between this clause 5.1 and a provision of the Access Code, the latter is to prevail.

(4) The information to be submitted by a Code participant to a network operator when requesting a metering service from the network operator is detailed in Appendix 4.

5.2 Unwritten service level agreement adopts model service level agreement

If a network operator provides, and a user accepts, a metering service and there is no written service level agreement between the parties in respect of the metering service, then unless the parties agree otherwise, the terms of the unwritten service level agreement for the metering service are to be taken to be those set out in the model service level agreement in respect of the metering service.

50 If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.
51 If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.
52 If clause 5.29(b) applies, read “network operator” as “network operator or its metering data agent”.
53 If clause 5.29(b) applies, read “network operator or metering data agent”.
54 If clause 5.29(b) applies, read “network operator or metering data agent”.
5.3 **Network operator must read meters**

A network operator\(^{55}\) must, for each metering point on its network:

(a) obtain energy data from the metering installation for the metering point; and

(b) transfer the energy data into its metering database,

by no later than 2 business days after the date for a scheduled meter reading for the metering point (or such other time as is specified in applicable service level agreement).

5.4 **Network operator must do at least one meter reading that generates an actual value per year**

(1) A network operator\(^{56}\) must, for each accumulation meter on its network, use reasonable endeavours to undertake a meter reading that provides an actual value at least once in any 12 month period.

(2) A user must, when reasonably requested by a network operator\(^{57}\), use reasonable endeavours to assist the network operator\(^{58}\) to comply with the network operator's\(^{59}\) obligation under clause 5.4(1).

   (For example: if the network operator is unable to access the meter to undertake a meter reading and obtain the energy data, the user may assist the network operator to obtain access to the meter at a mutually agreed time.)

(3) Nothing in this clause 5.4 detracts from a network operator's\(^{60}\) obligations to undertake meter readings under any other provision of this Code, under the Customer Transfer Code and as required by an enactment or an agreement.

---

**Division 5.2 — Data provision**

5.5 **Charges for provision of data**

(1) If there is no written service level agreement in place between the network operator\(^{61}\) and the user in respect of the provision of data under this Code, the network operator\(^{62}\) or the user may require the other to negotiate and enter into a written service level agreement in respect of the provision of data.

   {Note: If there is no written service level agreement, any metering services provided will be governed by an unwritten service level agreement under clause 5.2.)

---

\(^{55}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".

\(^{56}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".

\(^{57}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".

\(^{58}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".

\(^{59}\) If clause 5.29(b) applies, read "network operator's" as "metering data agent's".

\(^{60}\) If clause 5.29(b) applies, read "network operator's" as "metering data agent's".

\(^{61}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".

\(^{62}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".
(2) A network operator\(^{63}\):

(a) may only impose a charge for the provision of data under this Code in accordance with the applicable service level agreement between it and the user; and

(b) must not impose a charge for the provision of data under this Code if another enactment prohibits it doing so.

(Note: For example, clause 10.7(2) of the Code of Conduct does not permit a "distributor" within the meaning of the Code of Conduct to charge for the provision of data required to be provided under that clause under certain conditions.)

(3) A user must not impose any charge for the provision of the data under this Code unless it is permitted to do so under another enactment.

5.6 Network operator must provide energy data after meter reading

(1) Subject to clause 5.6(2), a network operator\(^{64}\) must in accordance with this Code provide validated, and where necessary substituted or estimated, energy data for a metering point to:

(a) the user for the metering point; and

(b) the IMO,

before 5pm on the first business day after the network operator\(^{65}\) obtains energy data for the metering point under clause 5.3(a) (or such other time as is specified in the applicable service level agreement).

(2) If the energy data for a metering point fails validation, the time limit in clause 5.6(1) is extended to 5pm on the second business day after the network operator\(^{66}\) obtains the data, unless the network operator\(^{67}\) and the user agree otherwise.

5.7 Network operator must provide replacement energy data

If a replacement energy data value is inserted in a metering database for a metering point under clause 5.24, the network operator\(^{68}\) must in accordance with this Code provide the replacement energy data to:

(a) the user for the metering point; and

(b) the IMO,

within 2 business days (or such other time as is specified in applicable service level agreement) after the day the replacement is made.

---

63 If clause 5.29(b) applies, read "network operator" as "metering data agent".
64 If clause 5.29(b) applies, read "network operator" as "metering data agent".
65 If clause 5.29(b) applies, read "network operator" as "metering data agent".
66 If clause 5.29(b) applies, read "network operator" as "metering data agent".
67 If clause 5.29(b) applies, read "network operator" as "metering data agent".
68 If clause 5.29(b) applies, read "network operator" as "metering data agent".
5.8 **Network operator must provide data for user's Code of Conduct obligations**

A network operator\(^{69}\) must in accordance with this Code provide a user with whatever information the network operator\(^{70}\) has, including energy data and standing data, that is necessary to enable the user to comply with its obligations under the Code of Conduct, within the time necessary for the user to comply with the obligations (unless another time is specified in the applicable service level agreement).

5.9 **Network operator must provide standing data to users**

A network operator\(^{71}\) must, in accordance with this Code, provide standing data, provided to or obtained by it under this Code, to users where required to do so under any enactment.

(Note: A network operator is required to disclose certain data to customers in other enactments such as clause 10.6 of the Code of Conduct.)

5.10 **Network operator must provide standing data to retailer**

A network operator\(^{72}\) must provide a subset of the standing data to a retailer in accordance with the provisions of Annex 4 of the Customer Transfer Code.

5.11 **Network operator must provide standing data to incoming retailer**

(Note: Clause 4.13 of Customer Transfer Code requires a network operator to provide notice of the transfer and the transfer date to various entities, including the incoming retailer. However the Customer Transfer Code does not deal with the network operator providing the incoming retailer (who has now become the current retailer [ie. current user]) with a full suite of standing data to enable the incoming retailer to populate its own database. This clause deals with that data provision. The network operator can if it chooses comply with this clause and clause 4.13 of the Customer Transfer Code by a single notice.)

If a “transfer” (as defined in the Customer Transfer Code) occurs at a connection point, then within 2 business days after the “transfer date” (as defined in the Customer Transfer Code), the network operator\(^{73}\) must provide the incoming retailer with a copy of the standing data for each metering point associated with the connection point.

5.12 **Current user may request energy data**

(1) If:

(a) a user gives a network operator\(^{74}\) an energy data request for a metering point in accordance with the communication rules; and

---

\(^{69}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{70}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{71}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{72}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{73}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{74}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(b) the energy data request relates only to a time or times for which the user was the current user at the metering point,

then the network operator\(^75\) must within 2 business days after receipt of the request (or such other time as is specified in the applicable service level agreement) provide the user with the complete set of energy data for the metering point for the time or times specified in the request.

(2) An energy data request under clause 5.12(1) may specify that the energy data is to be provided at regular intervals.

5.13 Current user may request standing data

(1) If the current user for a metering point gives the network operator\(^76\) a standing data request for the metering point in accordance with the communication rules, then the network operator\(^77\) must:

(a) provide the current user with the complete current set of standing data for the metering point; and

(b) advise whether there is a communications link for the metering point.

(2) The network operator\(^78\) must comply with clause 5.13(1) within 2 business days after receipt of the request.

5.14 Current user may request bulk standing data

(1) A user may in accordance with the communication rules request the network operator\(^79\) to provide the current standing data for more metering points than the maximum daily number specified in clause 3.4(1)(b)(i) of the Customer Transfer Code ("bulk standing data request").

[Note: At the time this Code was made, clause 3.4(1)(b)(i) of the Customer Transfer Code specified a maximum of 20 requests per day.]

(2) A user may not make a bulk standing data request in respect of a metering point unless:

(a) it is more than 3 months since that user previously made such a request in respect of the metering point; and

(b) the user is the current user for the metering point.

(3) If a user makes a bulk standing data request, the network operator\(^80\) must in accordance with the communication rules:

(a) acknowledge receipt of the bulk standing data request; and

\(^75\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^76\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^77\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^78\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^79\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^80\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(b) provide the requested standing data to the requesting user as soon as reasonably practicable and in any event no later than 10 business days after receipt of the request (or such other time as is specified in the applicable service level agreement).

5.15 Energy data must be accompanied by meter reading date

If a network operator provides energy data to a user or the IMO, it must also provide the date of the meter reading, which is to be either:

(a) if the energy data derives from an actual reading — the date of the actual reading; or

(b) if the energy data is an estimate, substitute or deemed actual value — the date on which the network operator (acting in accordance with good electricity industry practice) deems the reading to have occurred.

5.16 User must provide energy data to network operator

If a user collects or receives energy data from a metering installation then the user must provide the network operator with the energy data (in accordance with the communication rules) within 2 business days after collecting or receiving the energy data (or such other time as is specified in the applicable service level agreement).

5.17 User must provide standing data and energy data to user’s customers

(1) A user must, in accordance with this Code:

(a) provide the validated, and where necessary substituted or estimated, energy data, provided to it or obtained by it under this Code, to the user’s customer to which that information relates where the user is required by an enactment or an agreement to do so for billing purposes or for the purpose of providing metering services to the customer; and

(Note: a user is required to disclose certain energy data to its customers in order to bill those customers. Those requirements may be expressed in other enactments such as clause 4.4 of the Code of Conduct.)

(b) provide standing data provided to or obtained by it under this Code, to the user’s customer to which that information relates where required by an enactment or an agreement to do so for billing purposes or for the purpose of providing metering services to the customer.

---

81 If clause 5.29(b) applies, read “network operator” as “metering data agent”.

82 If clause 5.29(b) applies, read “network operator” as “metering data agent”.

83 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
5.18 User must notify network operator of change to energisation status

(1) If a user collects or receives information regarding a change in the energisation status of a metering point then the user must:

(a) provide the network operator with the information including the following attributes, in accordance with the communication rules:

(i) NMI;
(ii) energisation status;
(iii) date of change of energisation status; and
(iv) the reason for the change of energisation status,

and

(b) provide the network operator with energy data from the metering point under clause 5.16.

(2) The user must comply with clause 5.18(1) within 1 business day after the day the user collects or receives such information.

5.19 User must provide customer information

(1) A user must, when requested by the network operator acting in accordance with good electricity industry practice, use reasonable endeavours to collect information from customers, if any, that assists the network operator in meeting its obligations described in this Code and elsewhere.

(2) A user must, to the extent that it is able, collect and maintain a record of the following information in relation to the site of each connection point with which the user is associated:

(a) the following “address attributes”:

(i) the address of the site in a format specified in the communication rules; and

(ii) the NMI of each metering point at the address of the site;

(b) the following “site attributes” — the NMI of each metering point at the site;

(c) for each customer associated with the connection point, the following “customer attributes”:

(i) the NMI of each metering point with which the customer is associated;

84 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
85 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
86 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
87 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(ii) the customer’s name;

(iii) the customer’s postal address, for outage notification purposes, in a format specified in the communication rules; and

(iv) phone numbers to enable the network operator\(^{88}\) to contact the customer;

and

(v) whether there is a sensitive load supplied by the connection point and if so the type of sensitive load.

(3) Subject to clause 5.19(4) and 5.19(6), the user must, within 1 business day after becoming aware of any change in an attribute described in clause 5.19(2) (or such other time as is specified in the applicable service level agreement), notify the network operator\(^{89}\) of the change.

\{Note: Customer, site and address attributes may require updating in the following situations:
- on completion of a customer transfer to that user;
- for a new connection where the customer details and access requirements are assigned to the new NMI;
- when the customer moves out or moves in;
- upon receipt of updates provided by the existing customer.\}

\{Note: to the extent that items listed in clause 5.19(2) are standing data items, there is also a general obligation under clause 4.5 for Code participants, including the user, to keep the registry accurate and to notify other, relevant, Code participants of discrepancies.\}

(4) If a user becomes aware that there is a sensitive load at a customer’s site, the user must immediately notify the network operator’s Network Operations Control Centre of the fact.

(5) The network operator\(^{90}\) must give notice to the user, or (if there is a different current user) the current user, acknowledging receipt of:

(a) any customer attributes or site attributes from the user within 1 business day after receiving the information; and

(b) any address attributes from the user within 15 business days after receiving the information.

(6) The user must use reasonable endeavours to ensure that it does not notify the network operator\(^{91}\) of a change in an attribute described in clause 5.19(2) that results from the provision of standing data by the network operator\(^{92}\) to the user.

\{Note: this is to prevent a loop situation occurring.\}

\(^{88}\) If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

\(^{89}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{90}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{91}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{92}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.
Division 5.3 — Data Quality

5.20 Energy data verification requests

(Note: The verification process is re-validation of the data that is held in the network operator’s systems without an obligation to perform a field visit.)

(1) A network operator\(^{93}\) must (subject to clause 6.3), within 6 months from the date this Code applies to the network operator\(^{94}\), develop, in accordance with the communication rules, an energy data verification request form (“Energy Data Verification Request Form”) that allows a Code participant to request verification of energy data in accordance with this Code.

(2) An Energy Data Verification Request Form must require a Code participant to provide the following information:

(a) the metering point’s NMI and checksum; and

(b) the reason for the request; and

(c) for:

(i) an interval meter — the start date and time and end date and time of the period to which the Code participant’s request relates; and

(ii) an accumulation meter — the meter reading date to which the request relates (which is to be the date of the actual reading if the network operator\(^{95}\) has advised the Code participant that the energy data derives from an actual reading, and the date on which the reading is deemed to have occurred if the network operator\(^{96}\) has advised the Code participant that the energy data is an estimate, substitute or deemed actual value);

and

(d) where practicable — such information as the Code participant is reasonably able to provide to assist the network operator\(^{97}\) to comply with the request.

(3) A Code participant may request verification of energy data using a network operator’s\(^{98}\) Energy Data Verification Request Form if the Code participant reasonably believes that:

(a) there is, or is potentially, an error in the energy data; or

(b) the network operator’s\(^{99}\) response to a previous request has not resolved its query.

---

\(^{93}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{94}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{95}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{96}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{97}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{98}\) If clause 5.29(b) applies, read “network operator’s” as “metering data agent”.

\(^{99}\) If clause 5.29(b) applies, read “network operator’s” as “metering data agent”.
(4) If a Code participant requests verification of energy data under clause 5.20(3), the network operator\(^{100}\) must in accordance with the metrology procedure:

(a) subject to clause 5.20(5), use reasonable endeavours to verify the energy data; and

(b) inform the requesting Code participant of the result of the verification and provide the verified energy data to that Code participant:

(i) as soon as possible after completing the verification; and

(ii) no later than 5 business days after receiving the Energy Data Verification Request Form (or such other time as is specified in the applicable service level agreement).

(5) A network operator\(^{101}\) is not required to perform a field visit to comply with its obligations under clause 5.20(4).

5.21 Test and audit requests

(1) A Code participant may, subject to clauses 5.21(5) and 5.21(6), in relation to a metering installation, request the network operator\(^{102}\) to undertake either a test or an audit or both of any one or more of:

(a) the accuracy of the metering installation; and

(b) the energy data from the metering installation; and

(c) the standing data for the metering installation.

(2) A network operator\(^{103}\) must comply with any reasonable request under clause 5.21(1).

(3) The user may witness the test or audit.

(4) A test or audit under clause 5.21(1) is to be conducted in accordance with:

(a) the metrology procedure; and

(b) the applicable service level agreement.

(5) A Code participant must not request a test or audit under clause 5.21(1) unless:

(a) if the Code participant is a user — the test or audit relates to a time or times at which the user was the current user; or

---

99 If clause 5.29(b) applies, read “network operator’s” as “metering data agent’s”.

100 If clause 5.29(b) applies, read “network operator” as “metering data agent”.

101 If clause 5.29(b) applies, read “network operator” as “metering data agent”.

102 If clause 5.29(b) applies, read “network operator” as “network operator and metering data agent”.

103 If clause 5.29(b) applies, read “network operator” as “network operator and metering data agent”.
(b) it is the IMO.

(Note: If the Code participant seeking the test or audit is a network operator or metering data agent, the matter will be dealt with by the metering data agency agreement.)

(6) A Code participant must not make a request under clause 5.21(1) that is inconsistent with any access arrangement or agreement.

(7) If there is no written service level agreement in place between the network operator\textsuperscript{104} and the user in respect of the testing of the user’s metering installations or the auditing of information from the meters associated with the metering installations or both, the network operator\textsuperscript{105} or the user may require the other to negotiate and enter into a written service level agreement in respect of the testing of the metering installations, or the auditing of information from the meters associated with the metering installations, or both.

(Note: If there is no written service level agreement, any metering services provided will be governed by an unwritten service level agreement under clause 5.2.)

(8) A network operator\textsuperscript{106} may only impose a charge for the testing of the metering installations, or auditing of information from the meters associated with the metering installations, or both, in accordance with the applicable service level agreement between it and the user.

(9) Any written service level agreement entered into under clause 5.21(7) must include a provision that no charge is to be imposed if the test or audit reveals a non-compliance with this Code which results in energy data errors in the network operator’s favour.

(10) Any unwritten service level agreement in respect of testing of the metering installations, or the auditing of information from the meters associated with the metering installations, or both, includes a provision to the effect described in clause 5.21(9).

(11) If a test or audit shows that the accuracy of the metering installation or information from a meter associated with the metering installation does not comply with the requirements under this Code, the network operator\textsuperscript{107}:

(a) must advise the affected parties as soon as practicable of the errors detected and the possible duration of the existence of the errors; and

(b) must restore the accuracy of the metering installation in accordance with the applicable service level agreement; and

(c) may (acting in accordance with good electricity industry practice) make corrections to the energy data, up to a maximum of 12 months before the test or audit, to take account of errors referred to in this clause 5.21(11) and to minimise adjustments to the final settlement account.

\textsuperscript{104} If clause 5.29(b) applies, read “network operator” as “network operator and metering data agent”.

\textsuperscript{105} If clause 5.29(b) applies, read “network operator” as “network operator and metering data agent”.

\textsuperscript{106} If clause 5.29(b) applies, read “network operator” as “network operator and metering data agent”.

\textsuperscript{107} If clause 5.29(b) applies, read “network operator” as “network operator and metering data agent”.
5.22 Energy data – validation, substitution and estimation

(1) A network operator\textsuperscript{108}:

(a) must validate energy data in accordance with this Code applying, as a minimum, the rules and procedures set out in Appendix 2; and

(b) must, where necessary substitute and estimate energy data under this Code applying, as a minimum, the rules and procedures set out in Appendix 3.

(2) The network operator\textsuperscript{109} must use check metering data, where available, to validate energy data, provided that the check metering data has been appropriately adjusted for differences in metering installation accuracy in accordance with clause 3.13.

(3) If a check meter is not available or energy data cannot be recovered from the metering installation within the time required under this Code, then the network operator\textsuperscript{110} must prepare substitute values using a method contained in Appendix 3 of this Code and agreed where necessary with the relevant Code participants.

(4) If a network operator\textsuperscript{111} detects a loss of energy data or incorrect energy data from a metering installation, it must notify each affected Code participant of the loss or error within 24 hours after detection.

(5) Substitution or estimation of energy data is be required when energy data is missing, unavailable or corrupted, including in the following circumstances:

(a) the metering equipment for the metering point has failed or is removed from service; or

(b) energy data cannot be obtained in the time frames required for the data period in question; or

(c) an inspection or test on the metering installation establishes that a measurement error exists due to an installation fault that causes the accuracy of the metering installation to fail to meet the requirements of Table 3 in Appendix 1 for that Type of metering installation; or

(d) an inspection or test on the respective algorithms, Inventory, Load or On/Off tables for a Type 7 connection point establishes that an error exists in the energy data calculation set out in a metrology procedure; or

\textsuperscript{108} If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\textsuperscript{109} If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\textsuperscript{110} If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\textsuperscript{111} If clause 5.29(b) applies, read “network operator” as “metering data agent”.

(12) The original stored error correction data in a meter must not be altered except during accuracy testing and calibration of a metering installation.
(e) where the energy data calculation has failed the validation tests for the data for a Type 7 connection point; or

(f) in circumstances where valid energy data fails the validation processes in Appendix 2 of this Code.

(6) The network operator\(^{112}\) must review all validation failures before undertaking any substitution.

5.23 Deemed actual values

(1) If at any time a network operator\(^{113}\) determines that there is no possibility of determining an actual value for a metering point, then the network operator\(^{114}\) must designate an estimated or substituted value for the metering point to be a “deemed actual value” for the metering point.

{Examples: A deemed actual value may be required:

(a) for an accumulation meter, if the index of the meter has become unreadable, or the meter is destroyed; and

(b) for an interval meter, if the data logger or associated metering equipment has been destroyed; and

(c) for an interval meter, if the data logger or associated metering equipment is faulty, but not destroyed.}

(2) A deemed actual value may be used in place of an actual value.

(3) If the network operator\(^{115}\) has designated a deemed actual value for a metering point, then:

(a) the network operator\(^{116}\) must repair or replace the meter, or one or more of components of metering equipment (as appropriate) at the metering point in accordance with this Code;

{Note: The network operator will then be required to comply with clause 5.6(2) and provide the energy data to the associated user and the IMO.}

and

(b) clauses 5.24(3)(c) and 5.24(4) apply in respect of the estimated or substituted value which was designated to be the deemed actual value.

{Note: That is, the network operator may update the deemed actual value if a better estimated or substituted value becomes available.}

---

\(^{112}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{113}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{114}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{115}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{116}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.
5.24 Replacement of energy data with better data

(Note: Under the market rules, revised data can be dealt with under an Adjustment Process, see rules 9.16.3 and 9.19.)

(1) If a network operator uses an actual value ("first value") for energy data for a metering point, and a better quality:

(a) actual value; or

(b) deemed actual value,

is available ("second value"), then the network operator must replace the first value with the second value if doing so would be consistent with good electricity industry practice.

(2) If a network operator uses a deemed actual value ("first value") for energy data for a metering point, and a better quality deemed actual value is available ("second value"), then the network operator must replace the first value with the second value if doing so would be consistent with good electricity industry practice.

(3) If a network operator uses an estimated or substituted value ("first value") for energy data for a metering point, and a better quality:

(a) actual value; or

(b) deemed actual value; or

(c) estimated or substituted value,

is available ("second value"), then the network operator must replace the first value with the second value:

(d) if doing so would be consistent with good electricity industry practice; or

(e) if the user associated with the metering point and its customer jointly request the network operator to do so.

(4) A network operator (acting in accordance with good electricity industry practice) must consider any reasonable request from a Code participant for an estimated or substituted value to be replaced under clause 5.24.

---

117 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
118 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
119 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
120 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
121 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
122 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
123 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
124 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
5.25  **Estimation and processing must maintain data quality**

A network operator\(^{125}\) must:

(a) ensure the accuracy of estimated energy data in accordance with the methods in its metrology procedure; and

(b) ensure that any transformation or processing of data preserves its accuracy in accordance with the metrology procedure.

(Example: The transformation or processing may involve the application of multipliers to raw data to apply the appropriate CT or VT ratios.)

5.26  **Network operator may correct for losses between metering point and associated connection point**

A network operator\(^{126}\) may adjust the energy data that is transferred into its metering database under clause 5.3(b) to compensate for losses between a metering point and the associated connection point in accordance with the metrology procedure.

5.27  **Network operator may request customer details**

Without limiting clauses 4.5 or 4.6, a network operator\(^{127}\) may, if it reasonably believes that one or more components of the customer attributes (but not the site attributes or address attributes) for a connection point:

(a) are missing; or

(b) are incorrect,

request those current values from the current user, and the current user must provide the information requested in accordance with the communication rules within 2 business days after receiving the request (or such other time as is specified in the applicable service level agreement).

**Division 5.4 — Appointment of electricity networks corporation as metering data agent**

5.28  **Network operator may elect for electricity networks corporation to be metering data agent**

(Note: Under clause 8.1.4 of the market rules, a network operator (other than the electricity networks corporation) may, under the conditions contained in that clause, decline to collect energy data from market participants connected to its network and the electricity networks corporation must undertake that activity. This Code applies also to the network operator of a non-wholesale market network.)

A network operator (“electing network operator”) other than the electricity networks corporation may by notice to the electricity networks corporation elect for the electricity networks corporation to be its metering data agent for its network.

---

\(^{125}\) If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

\(^{126}\) If clause 5.29(b) applies, read ”network operator” as “metering data agent”.

\(^{127}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

5.29 Consequences of election

If a network operator makes an election under clause 5.28 in respect of a network, then (unless the election is terminated under the metering data agency agreement):

(a) the electricity networks corporation is appointed as the electing network operator’s metering data agent under this Code for the network, commencing on the day specified in the metering data agency agreement; and

(b) wherever in this Code the expression “network operator” is marked by a footnote, the expression is to be read in relation to the network and the electing network operator as being amended in the manner set out in the footnote; and

(c) except to the extent that the metering data agency agreement provides otherwise:

(i) the electing network operator must do all things reasonably necessary to enable the electricity networks corporation to perform its obligations as the electing network operator’s metering data agent; and

(Example: The network operator will need to tell the metering data agent that a transfer has occurred under the Customer Transfer Code, so that the metering data agent can comply with clause 5.11.)

(ii) the electricity networks corporation must do all things reasonably necessary to enable the electing network operator to perform its obligations under this Code and any other enactment;

and

(d) if the network is one to which Part 9 of the Act applies — the electing network operator must as soon as practicable provide a copy of the election notice to the IMO; and

(e) without limiting the generality of clause 5.29(c)(i), except to the extent that the metering data agency agreement provides otherwise the electing network operator must provide to the electricity networks corporation for each metering point on its network:

(i) all information needed by the electricity networks corporation to populate the registry; and

(ii) energy data for at least the last 2 years;

and

(f) except to the extent that the metering data agency agreement provides otherwise nothing in this Code obliges the electricity networks corporation to maintain all or part of a metering installation; and

{Note: Clause 3.5(3)(a) requires a network operator to provide, install, operate and, subject to clause 3.5(7), maintain a metering installation.}
except to the extent that the \textit{metering data agency agreement} provides otherwise, the \textit{electing network operator} must (unless the \textit{metering data agent} is appointed after the opportunity to do so has passed) consult with, and have reasonable regard to the requirements of, the \textit{electricity networks corporation} in:

(i) preparing the \textit{model service level agreement} for the \textit{network}; and
(ii) making any submissions to the \textit{Authority} under clause 6.20(3)(b) in relation to the \textit{network}; and
(iii) preparing the \textit{communication rules} for the \textit{network}; and
(iv) preparing the \textit{metrology procedure} for the \textit{network},

and

except to the extent that the \textit{metering data agency agreement} provides otherwise, the \textit{electricity networks corporation} may make submissions to the \textit{electing network operator} on any initial findings by the \textit{Authority} under clause 6.20(3)(b) in relation to the \textit{network} and the \textit{electing network operator} must provide these submissions to the \textit{Authority} within the time limited for it to provide submissions under clause 6.20(3)(c).

\textbf{5.30 Metering data agency agreement}

\textbf{(1)} If a \textit{network operator} makes an election under clause 5.28 in relation to a \textit{network}, then the \textit{electing network operator} and the \textit{electricity networks corporation} must enter into a \textit{metering data agency agreement} in relation to the \textit{network}, which must deal with at least the following:

(a) the time from which the \textit{electricity networks corporation} is to commence acting as the \textit{electing network operator}’s \textit{metering data agent} in relation to the \textit{network}, which (unless the \textit{electing network operator} agrees to a later time) must be as soon as practicable in accordance with \textit{good electricity industry practice}; and

(b) whether the \textit{electricity networks corporation} is to adopt the \textit{electing network operator}’s \textit{model service level agreement} and \textit{metrology procedure} in relation to the \textit{network} and for each approved \textit{document}:

(i) if the \textit{electricity networks corporation} is to adopt it — whether the \textit{electing network operator} is to seek any amendments to it under Division 6.2; and
(ii) if the \textit{electricity networks corporation} is not to adopt it — how the \textit{electing network operator} and the \textit{electricity networks corporation} are to cooperate in developing and having approved under Division 6.2 the \textit{electricity networks corporation}’s own approved \textit{document} for the \textit{network};

\{Note: Clause 5.30(3) provides for consequential amendments to Division 6.2.\} and
(c) whether the electing network operator is to seek any amendments to the communication rules in relation to the network under Division 6.2; and

(d) apportionment of responsibilities under a model service level agreement; and

(e) access by the electing network operator to the metering database; and

(f) test and audit under clause 5.21 as between the electing network operator and the electricity networks corporation; and

(g) how the election may be terminated and the consequences of termination; and

(h) allocation of responsibility between the electing network operator and electricity networks corporation in respect of the electing network operator’s responsibilities under the Customer Transfer Code.

(2) The terms of a metering data agency agreement may be the subject of a dispute under Part 8, but in resolving the dispute the Authority:

(a) may not, unless the electing network operator agrees, include in the metering data agency agreement any derogation from clauses 5.32, 5.33 and 5.34(2); and

(b) may not, unless the electricity networks corporation agrees, include in the metering data agency agreement any derogation from clauses 5.29(c), 5.29(e), 5.29(f), 5.32 and 5.33.

(3) If a metering data agency agreement provides in accordance with clause 5.30(1)(b)(ii) that the electricity networks corporation is not to adopt either or both of the electing network operator’s model service level agreement or metrology procedure (each a “relevant document”), then wherever in Part 6 the expression “network operator” is marked by a footnote which refers to this clause 5.30(3), the expression is to be read in relation to the relevant document as being amended in the manner set out in the footnote.

5.31 Ensuring that the electing network operator’s metering installations comply with this Code

(1) If a network operator has elected under clause 5.28 for the electricity networks corporation to be its metering data agent in relation to a network, the electricity networks corporation must (in accordance with the manner and timing specified in the metering data agency agreement):

(a) assess the compliance of each metering installation in the network with this Code; and

(b) notify the electing network operator of each non-compliant metering installation.

(2) For each non-compliant metering installation notified under clause 5.31(1)(b), the electing network operator may by notice to the electricity networks corporation require the electricity networks corporation to upgrade the metering installation in order to make it compliant with this Code, in which case the
electricity networks corporation must undertake the upgrade in accordance with the metering data agency agreement and good electricity industry practice (as to both the manner and timing of the upgrade).

(3) For each non-compliant metering installation notified under clause 5.31(1)(b), if within a reasonable time after notification under clause 5.31(1)(b), the electing network operator has not either:

(a) given the electricity networks corporation a notice under clause 5.31(2); or

(b) provided the electricity networks corporation with proof acceptable to the standard of good electricity industry practice that the metering installation has been upgraded in accordance with this clause 5.31,

then the electricity networks corporation may undertake the upgrade.

5.32 Metering data agent is not an agent

This Code does not (except to the extent that the metering data agency agreement expressly provides otherwise) create a relationship of principal and agent, partnership or joint venture between an electing network operator and the electricity networks corporation acting as its metering data agent.

5.33 Metering data agent is not a service provider

Appointment as a metering data agent in respect of a network does not (except to the extent that the metering data agency agreement expressly provides otherwise) make the electricity networks corporation a service provider for the purposes of the Access Code in respect of that network.

5.34 Electing network operator to reimburse the costs of the electricity networks corporation

(1) The electricity networks corporation may, subject to clause 5.34(2), recover from an electing network operator the costs the electricity networks corporation incurs in acting as the network operator’s metering data agent.

(2) Except to the extent that the metering data agency agreement provides otherwise, the costs which may be recovered under clause 5.34(1):

(a) must not exceed the costs that would be incurred by a network operator acting in good faith and in accordance with good electricity industry practice, seeking to achieve the lowest sustainable costs of performing the obligations of a metering data agent under this Code; and

(b) must not exceed the incremental cost attributable to the electricity networks corporation acting as the metering data agent and accordingly must not include any allowance for profit margin, return on capital or return of capital.
Part 6 – Documentation

(Note on integration with the Access Code: The Access Code requires an access arrangement to deal with metering as a “supplementary matter”. Under section 5.28(b) of the Access Code, and subject to the market rules and related enactments, the access arrangement must deal with metering in a manner which is consistent with and facilitates the treatment of metering under other enactments including this Code.)

Division 6.1 — The Documents

6.1 Compliance with documents

(1) A network operator\(^{128}\) must in relation to its network comply with:
   (a) its\(^{129}\) model service level agreement; and
   (b) its communications rules; and
   (c) its\(^{130}\) metrology procedure; and
   (d) any service level agreement entered into by it;
   (e) its mandatory link criteria; and
   (f) its registration process (if any).

(2) A user must, in relation to a network on which it has an access contract, comply with:
   (a) the communications rules; and
   (b) the metrology procedure,\(^{131}\) and
   (c) any service level agreement entered into by it; and
   (d) the mandatory link criteria.

\(^{128}\) If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

\(^{129}\) If clause 5.29(b) applies, read “its” as “the network operator’s and the metering data agent’s”.

\(^{130}\) If clause 5.29(b) applies, read “its” as “the network operator’s and the metering data agent’s”.

\(^{131}\) If clause 5.29(b) applies, read “the metrology procedure” as “the network operator’s and the metering data agent’s metrology procedures”.
6.2 Network operator must establish documents

Subject to clause 6.3, a network operator\textsuperscript{132} must as soon as practicable and in any event within 6 months after the date this Code applies to the network operator\textsuperscript{133} submit to the Authority for its approval under Division 6.2:

(a) a proposed model service level agreement;
(b) proposed communication rules;
(c) a proposed metrology procedure; and
(d) proposed mandatory link criteria under clause 3.6,

each of which is a proposed “document”.

{Note: The network operator may establish a registration process under clause 6.9, which is also a “document”.}

6.3 Transitional – Electricity networks corporation’s initial documents

(1) This clause 6.3 applies only in respect of:

(a) those parts of the South West interconnected system owned by electricity networks corporation; and
(b) the electricity networks corporation, to the extent it is a Code participant by virtue of being licensed, or being deemed to be licensed, as the network operator for the network described in clause 6.3(1)(a); and
(c) the electricity networks corporation’s proposed communications rules or proposed model service level agreement for the network described in clause 6.3(1)(a).

(2) If this clause 6.3 applies, the electricity networks corporation must within 5 business days of this Code being published in the Government Gazette, submit to the Authority for its approval under Division 6.2, the documents specified in clause 6.3(1)(c).

(3) Until such time as the Authority approves under Division 6.2 the documents specified in clause 6.3(1)(c):

(a) the electricity networks corporation (subject to the Access Code and any access arrangement):

(i) must provide the metering services listed in Table 8 in Appendix 5 within the times shown in Table 8 and on terms and conditions consistent with the Code objectives and good electricity industry practice; and

---

\textsuperscript{132} If clause 5.30(3) applies, read “network operator” as “network operator and, in relation to the relevant document, its metering data agent”.

\textsuperscript{133} If clause 5.30(3) applies, read “network operator” as “network operator or metering data agent”.

(ii) may apply a charge to the requesting party for providing the metering services listed in Table 8 in Appendix 5 not exceeding the charges shown in Table 8;

and

(b) a reference in this Code to the electricity networks corporation’s model service level agreement is to be read (with appropriate amendments) as a reference to clause 6.3(3)(a).

6.4 Transitional – Communications before communication rules approved

Until the Authority approves under Division 6.2 communication rules in relation to a network, the “communication rules” for the network are that:

(a) Code participants must act in accordance with the Code objectives and good electricity industry practice in the communication of data or other information, or both, under this Code; and

(b) if under this Code a Code participant must or may send a thing electronically, the Code participant must send that thing to the network operator’s notified electronic communication address or recipient’s notified electronic communication address, as applicable, in accordance with Annex 6 of the Customer Transfer Code.

6.5 Requirements for all documents

A document must:

(a) comply with this Code; and

(b) not impose inappropriate barriers to entry to a market; and

(c) be consistent with good electricity industry practice; and

(d) be reasonable; and

(e) be consistent with the Code objectives; and

(f) be consistent with the market rules; and

(g) unless this Code requires otherwise, be consistent with other enactments.

{Example: Other enactments, such as section 39 of the Electricity Act 1945 impact upon a model service level agreement. At the time this Code was made, section 39 provided:

"the supply authority shall owe a duty to the consumer to keep any meter let on hire to him at all times in proper order for correctly registering the quantity of electricity supplied to the consumer; and if the supply authority fails, and while it continues to fail in the discharge of that duty, the consumer shall not be liable to pay rent or other consideration for the use of such meter."}

134 If clause 5.29(b) applies, read “network operator’s” as “network operator’s, and its metering data agent’s,”.
6.6 Requirements for model service level agreement

(1) A model service level agreement must at least:

(a) specify the metering services that the network operator\textsuperscript{135}:

(i) must provide (which must include at least all the metering services that this Code and the Customer Transfer Code require the network operator to provide); and

(ii) may provide,

\text{to other Code participants} on request,

and

(b) for each metering service referred to in clause 6.6(1)(a), specify:

(i) a detailed description of the metering service; and

(ii) a timeframe, and where appropriate other service levels, for the performance of the metering service,

and

(c) subject to clause 5.21(9), specifies the maximum charges that the network operator\textsuperscript{136} may impose for each metering service referred to in clause 6.6(1)(a); and

(d) if any of the charges specified under clause 6.6(1)(c) is variable, provides details of the methodology and cost components that will be used to calculate the variable charge including (where applicable) hourly labour rates, distance-related costs and equipment usage costs; and

(e) provides that the charges which may be imposed under a service level agreement may not exceed the costs that would be incurred by a network operator acting in good faith and in accordance with good electricity industry practice, seeking to achieve the lowest sustainable costs of providing the relevant metering service; and

(f) requires the network operator to publish, annually, a list setting out for each metering point on the network either:

(i) each date for a scheduled meter reading in the coming year; or

(ii) the reading day number to apply for the current year,

and specifies the procedures by which, and frequency with which, this list may be revised;

and

\textsuperscript{135} If clause 5.29(b) applies, read “network operator” as “network operator and the metering data agent”.

\textsuperscript{136} If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.


(g) specify the procedures for a Code participant to make a request for metering services ("metering service order") and the procedures for dealing with a metering service order.

(Note: Without limiting clause 6.6(1), a model service level agreement must, at least:

(a) specify service levels (including timeframes) under clause 3.11(2);
(b) specify test and audit service levels under clause 5.21;
(c) contain a mandatory charging provision under clause 5.21(9);
(d) specify the service levels (including timeframes) for the provision, installation, operation and maintenance of metering installations under clause 3.5(1);
(e) specify a time limit for the purposes of clause 5.13(2);
(f) specify service levels (including timeframes) for metering repairs.)

2 The paragraphs of this clause 6.6 do not by implication limit each other.

6.7 Requirements for communication rules

(1) Communication rules must at least:

(a) without limiting clause 6.5(g), be compatible with any "communications rules" (as defined in the Customer Transfer Code) approved for the network under the Customer Transfer Code; and

(Note: The intention is that there ultimately be only one set of communication rules, fulfilling a function under both this Code and the Customer Transfer Code. The Customer Transfer Code communication rules requirements are less extensive than this Code’s requirements.)

(Note: Without limiting clause 6.7(1), a network operator’s communication rules must, at least:

(a) provide for the addition, removal and modification of items of standing data in the registry in accordance with clause 4.3(3); and

(b) for the purposes of clause 7.1(c), make provision regarding electronic notices; and

(c) specify the format of the details of the address referred to in Item 1 of Table 2 in clause 4.3(1); and

(d) specify the format of the details of the matters referred to in Item 11 of Table 2 in clause 4.3(1); and

(e) provide for the development, submission and answering of Energy Data Verification Request Forms in accordance with clause 5.20; and

(f) specify meter data event codes; and

(g) specify the format of the details required by the network operator in respect of metering service orders and other industry transactions.)

(b) specify a test for validity of communications and how invalid communications are to be dealt with; and
(c) provide for:
   (i) requests for; and
   (ii) the verification, updating, correction and notification of changes
to,

\[ \text{data in the registry}; \] and

(2) The paragraphs of clause 6.7(1) do not limit each other.

(3) Without limiting the generality of clause 6.7(1)(a) a network operator may
incorporate the “communication rules” under the Customer Transfer Code as
part of the proposed communication rules and submit the combined rules for
approval by the Authority under this Code.

(4) If a network operator submits proposed communication rules under clause
6.7(3), approval by the Authority of those rules is deemed to also be approval
of the “communication rules” by the Authority under clause 5.1(1) of the
Customer Transfer Code.

6.8 Requirements for a metrology procedure

A metrology procedure must at least:

(a) as a minimum, contain information on the devices and methods that are
used by the network operator\textsuperscript{137} to:
   (i) measure, or determine by means other than a device, electricity
produced and consumed at a metering point, and
   (ii) convey the measured or determined information to other devices
using communications links, and
   (iii) prepare the information using devices or methods to form
energy data; and
   (iv) provide access to the energy data from a telecommunications
network;

and

(b) specify the minimum requirements for meters and metering
installations, including:
   (i) accumulation meters; and
   (ii) interfaces that allow interval energy data to be downloaded; and
   (iii) direct connected meters for Type 4 to Type 6 metering
installations; and
   (iv) CTs and VTs; and

\textsuperscript{137} If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

(v) programmable settings under clause 3.10.

(c) specify the procedures for estimating, substituting and validating energy data under this Code; and

(d) be consistent with the approved asset management system required by section 14 of the Act; and

(e) specify the date from which the metrology procedure takes effect which must be no less than 3 months after it is published.

(Note: Without limiting clause 6.8, a network operator’s metrology procedure must, at least:

(a) specify the technical parameters for the provision, installation, operation and maintenance of metering installations under clause 3.5(1) which are consistent with this Code; and

(b) specify the methods for determining the accuracy of estimated energy data under clause 5.25(a); and

(c) specify test and audit procedures under clause 5.21; and

(d) specify how accumulated energy data from a Type 6 metering installation or Type 7 metering installation is to be converted into trading interval data within the metering database in accordance with clauses 3.16(4); and

(e) specify the devices and methods to ensure the accuracy of data relating to each metering point by the application of appropriate CT or VT ratios and pulses in accordance with clause 5.25(b); and

(f) specify what the network operator must do to comply with clause 5.20(4); and

(g) specify the methods for comparing market generator interval energy data against SCADA data for the purposes of A2.6(2)(b).)

6.9 Network operator may establish a registration process

(1) A network operator may establish a proposed registration process and submit it to the Authority for its approval under Division 6.2.

(Note: A network operator may register and deregister a person in accordance with its registration process under clause 3.28.)

(2) A registration process must at least:

(a) in relation to applicant metering installation providers, specify the criteria the network operator may take into account in considering an application for registration and authorising the work that may be carried out by the person; and

(b) contain appropriate checks, to the standard of good electricity industry practice, for competence of proposed registered metering installation providers; and
(c) provide for the deregistration of non-compliant registered metering installation providers (including provision for reasonable notice of non-compliance, a reasonable cure period where appropriate, and a reasonable dispute resolving mechanism).

Division 6.2 – Approval procedure for documents

6.10 Application of this Division 6.2 approval procedure

The clauses of this Division 6.2 apply to all proposed documents unless otherwise indicated.

6.11 Consultation with Code participants

(1) This clause 6.11 does not apply in respect of a proposed registration process or proposed mandatory link criteria.

(2) Before seeking the Authority’s approval under clause 6.2, a network operator\textsuperscript{138} must:

(a) give Code participants a reasonable opportunity to make submissions to the network operator\textsuperscript{139} concerning the proposed document; and

(b) take into account any submissions received from Code participants in developing the proposed document.

(3) Before seeking the Authority’s approval under clause 6.2, a network operator\textsuperscript{140} must provide a report to the Authority that:

(a) identifies the process through which the proposed document was developed, including details of consultation with Code participants under this clause 6.11; and

(b) describes how the proposed document complies with the criteria set out in clauses 6.5 to 6.9 (as applicable); and

(c) describes how the network operator\textsuperscript{141} took into account any submissions received from Code participants; and

(d) includes copies of submissions received by the network operator\textsuperscript{142} from Code participants.

(4) The Authority must not approve a proposed document unless the Authority is satisfied that the network operator\textsuperscript{143} has complied with clauses 6.11(2) and 6.11(3).

\textsuperscript{138} If clause 5.30(3) applies, read “network operator” as “network operator or metering data agent”.

\textsuperscript{139} If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”.

\textsuperscript{140} If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”.

\textsuperscript{141} If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”.

\textsuperscript{142} If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”.

\textsuperscript{143} If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”.

6.12 Authority may establish a Metering Advisory Committee

(1) The Authority may establish a Metering Advisory Committee to advise the Authority.

{Example: The Authority may establish the committee to advise it on a single document, or on all documents, or in relation to metering generally.}

(2) The Authority may determine the role, functions, composition and procedures of the Metering Advisory Committee.

(3) The Authority must have regard to advice provided by a Metering Advisory Committee:

(a) in deciding whether to approve or not approve a document; and

(b) in drafting its own document under clause 6.17.

(4) Clause 6.12(3) does not limit the matters to which the Authority must or may have regard.

6.13 Authority may approve a document or specify amendments

(1) If a network operator submits a proposed document to the Authority, then the Authority must within 30 business days of submission:

(a) make a decision to either:

(i) approve the document; or

(ii) not approve the document;

and

(b) notify the network operator in writing of:

(i) the Authority’s decision, and

(ii) if the Authority’s decision is not to approve the document — the amendments (or nature of the amendments) which would have to be made to the document in order for the Authority to approve it.

(2) The Authority may extend the time limit specified in clause 6.13(1) by no more than an aggregate of 30 business days if, and only to the extent that, the Authority first reasonably determines that:

(a) a longer period of time is essential for due consideration of all the matters under consideration or satisfactory performance of its obligations under clause 6.13(1), or both; and

144 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent, as applicable,”.

145 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”.
(b) the Authority has taken all reasonable steps to fully utilise the times and processes provided for in this Part 6.

(3) The Authority must not exercise the power in clause 6.13(2) to extend the time limit specified in clause 6.13(1) unless, before the day on which the time would otherwise have expired, it publishes notice of, and reasons for, its decision to extend the time limit.

6.14 Requirements for approval by Authority

The Authority must not approve a proposed document unless it is satisfied that the proposed document meets the criteria set out in clauses 6.5 to 6.9 (as applicable).

6.15 “Code objective” from Access Code to be taken into account

(1) Without limiting clause 6.14, in considering whether to approve a model service level agreement under this Division 6.2, the Authority:

   (a) must take into account; and
   
   (b) may give priority to,

   the “Code objective” as defined in the Access Code.

(2) Clause 6.15(1) does not limit the matters the Authority must or may take into account under this Code.

6.16 Network operator may submit an amended document

(1) A network operator may submit an amended proposed document within 10 business days after the date of the Authority's advice under clause 6.13(1)(b)(ii), and, within 20 business days after the amended proposed document is submitted, the Authority must make a decision whether to approve or not approve the amended proposed document and notify the network operator of its decision.

(2) If an amended proposed document submitted by a network operator under clause 6.16(1) contains the amendments advised by the Authority under clause 6.13(1)(b)(ii), then the Authority must approve the amended proposed document and notify the network operator in writing of its decision.

6.17 Authority drafts its own documents

(1) This clause 6.17 does not apply in respect of a proposed registration process, a proposed metrology procedure or proposed mandatory link criteria.

---

146 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent, as applicable,”.

147 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”.

148 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”.
(2) If:

(a) a network operator fails to submit an amended proposed document to the Authority under clause 6.16; or

(b) the Authority makes a decision to not approve an amended proposed document submitted to it by a network operator under clause 6.16,

then the Authority must within 30 business days after:

(c) if clause 6.17(2)(a) applies — the last day on which the network operator may submit an amended proposed document under clause 6.16(1); or

(d) if clause 6.17(2)(b) applies — the day on which the Authority makes the decision to not approve the amended proposed document,

draft its own proposed document and approve it and notify the network operator in writing of the Authority’s approval.

6.18 Publication of approved document

A network operator must, within 10 business days after notification of the Authority’s approval under clause 6.13(1)(a)(i), 6.16 or 6.17, publish the approved document.

6.19 Approved document takes effect

(1) Clause 6.19 does not apply in respect of a proposed metrology procedure.

[Note: A metrology process takes effect from the date specified in the metrology process in accordance with clause 6.8(e).]

(2) A document approved by the Authority under clause 6.13(1)(a)(i), 6.16 or 6.17 takes effect 10 business days (or such later time as is specified in the approved document or by the Authority in its approval) after the approved document has been published.

6.20 Review and amendment of network operator’s documents

(1) The Authority may in its absolute discretion:

(a) of its own initiative; or

---

149 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent, as applicable, “.

150 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent, as applicable, “.

151 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent”. 

152 If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent, as applicable, “.
(b) upon request by a Code participant,

require a network operator\(^{153}\) to amend a document provided that the document as amended must comply with this Code.

(2) Before requiring an amendment to a document under this clause 6.20, the Authority must initiate a review of the document under clause 6.20(3), which review may be of the whole document or only that part of the document for which the amendment is proposed.

(3) The Authority must, if it undertakes a review under this clause 6.20:

(a) within 50 business days after initiating the review:

(i) publish its draft findings in relation to the review; and

(ii) notify the network operator\(^{154}\) of its draft findings;

and

(b) allow a period of at least 20 business days after publication of the draft findings for persons to make submissions in relation to the draft findings; and

(c) within 10 business days after the end of the period in 6.20(3)(b):

(i) publish its final findings in relation to the review (which must detail any amendments required to the document) together with any submissions made under clause 6.20(3)(b) in relation to the review; and

(ii) notify the network operator\(^{155}\) of its final findings.

(4) The network operator\(^{156}\) must amend any document in accordance with the Authority’s final findings.

---

\(^{153}\) If clause 5.30(3) applies, read “network operator” as “network operator or the metering data agent, as applicable,”.

\(^{154}\) If clause 5.30(3) applies, read “network operator” as “network operator or metering data agent”.

\(^{155}\) If clause 5.30(3) applies, read “network operator” as “network operator or metering data agent”.

\(^{156}\) If clause 5.30(3) applies, read “network operator” as “network operator or metering data agent”.

Part 7 – Notices and Confidential Information

7.1 Requirements for valid notice

To be a valid notice under this Code, a notice or other communication must be given in accordance with this Part 7, and:

(a) in writing by post, to the recipient’s notified postal address; or
(b) in writing by facsimile, to the recipient’s notified facsimile number; or
(c) electronically, in accordance with the communication rules.

7.2 Code participants

(1) Code participants must use reasonable endeavours to ensure that they can send and receive a notice by each of the following means:

(a) post; and
(b) facsimile; and
(c) electronic communication,

and they must notify the network operator\(^{157}\) of a telephone number for voice communication in connection with this Code.

(2) A network operator\(^{158}\) must notify each Code participant of its initial contact details, and of any change to its contact details at least 3 business days before the change takes effect.

(3) If a Code participant has not provided the network operator\(^{159}\) with its contact details under clause 7.2(4), then the network operator\(^{160}\) may comply with clause 7.2(2) in respect of the Code participant by placing a reasonably prominent advertisement in a newspaper which has circulation throughout Western Australia.

(4) If requested by a network operator with whom it has entered into an access contract, the Code participant must notify its contact details to the network operator\(^{161}\) within 3 business days after the request.

(5) A Code participant must notify any affected network operator\(^{162}\) of any change to the contact details it notified to the network operator\(^{163}\) under clause 7.2(4) at least 3 business days before the change takes effect.

\(^{157}\) If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

\(^{158}\) If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

\(^{159}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

\(^{160}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

\(^{161}\) If clause 5.29(b) applies, read “network operator” as “network operator and its metering data agent”.

\(^{162}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

\(^{163}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
7.3 Receipt

(1) A notice sent by post within Australia is deemed to have been received by the intended recipient on the third business day after the day it was sent.

(2) A notice sent by facsimile transmission which is transmitted:
   (a) on or before 15:00 hours on a business day is deemed to have been received by the intended recipient on that business day; and
   (b) after 15:00 hours on a business day, or on a day which is not a business day, is deemed to have been received by the intended recipient on the first business day following the date of transmission, provided that the sender of the notice is able to produce a transmission report produced by the machine from which the facsimile was sent showing successful uninterrupted facsimile transmission of all pages of the relevant notice to the facsimile number of the intended recipient.

(3) A notice sent electronically is deemed to have been received by the intended recipient in accordance with the communication rules.

7.4 Confidential Information

(1) “Confidential information” means:
   (a) metering database information; or
   (b) other information which is confidential or commercially sensitive,

   but does not include information which is in, or enters into, the public domain other than by a breach of this Code.

(2) A reference in clauses 7.4, 7.5 or 7.6 to information being disclosed to or received by a Code participant, includes information being communicated to or created, ascertained, discovered or derived by it or on its behalf.

7.5 Confidentiality Obligations

A Code participant must, subject to clause 7.6:

(a) not disclose, or permit the disclosure of, confidential information provided to it under or in connection with this Code; and

(b) only use or reproduce confidential information for the purpose for which it was disclosed or another purpose contemplated by this Code.

7.6 Permitted Disclosure

(1) A Code participant must disclose or permit the disclosure of confidential information that is required to be disclosed by this Code.
(2) A Code participant may disclose or permit the disclosure of confidential information:

(a) to any of the following persons who has in place appropriate confidentiality arrangements in respect of the confidential information:

(i) its officers; or
(ii) its employees; or
(iii) a related body corporate and its officers or employees or both; or
(iv) its legal advisers; or
(v) its auditors; or
(vi) a consultant engaged by the Code participant,

provided such a person has a reasonable need for the confidential information, including for the purposes of providing professional advice to it,

or

(b) which is required to be disclosed by:

(i) an enactment; or
(ii) the rules of a stock exchange which has jurisdiction over the Code participant or any of its related bodies corporate,

and in such cases:

(iii) the disclosing Code participant must promptly notify the affected Code participant of the requirement; and
(iv) only disclose that part of the confidential information which is required to be disclosed,

or

(c) if required for the purpose of determining, prosecuting or defending a legal proceeding, arbitration or dispute and, in such cases:

(i) the disclosing Code participant must promptly notify the affected Code participant of the requirement; and
(ii) only disclose that part of the confidential information which the relevant Code participant is required to disclose for the purpose,

or

(d) with the written consent of the affected Code participant (which must not be unreasonably withheld) and subject to the conditions of the consent.
Part 8 – Dispute Resolution

8.1 Dispute resolution procedures

(1) If any dispute arises between any Code participants other than the Authority ("disputing parties"), then (subject to clause 8.2(3)) representatives of the disputing parties must meet within 5 business days after a notice given by a disputing party to the other disputing parties and attempt to resolve the dispute by negotiations in good faith ("representative negotiations").

(2) If the dispute is not resolved within 10 business days after the dispute is referred to representative negotiations, the disputing parties must (subject to clause 8.2(3)) refer the dispute to a senior management officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith ("senior management negotiations").

(3) If the dispute is not resolved within 10 business days after the dispute is referred to senior management negotiations, the disputing parties must (subject to clause 8.2(3)) refer the dispute to the senior executive officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith ("CEO negotiations").

(4) If the dispute is resolved by representative negotiations, senior management negotiations or CEO negotiations, the disputing parties must:

(a) prepare a written record of the resolution and sign the record; and

(b) adhere to the resolution.

8.2 Referral of disputes to the Authority

(1) If a dispute is not resolved within 20 business days after the dispute is referred to CEO negotiations, then any disputing party may by notice to each other disputing party refer the dispute to the Authority.

(2) The disputing party referring the dispute to the Authority must give notice to the Authority of the nature of the dispute, including:

(a) the breach, act, omission or other circumstance forming the basis for the dispute; and

(b) the provision within this Code or other basis for the dispute.

(3) A disputing party may:

(a) by notice, request the Authority to conduct a dispute resolution before representative negotiations, senior management negotiations or CEO negotiations if the disputing party considers that the dispute is of an urgent nature; and
(b) if the disputing party makes such a request, it must provide to the Authority and to each other disputing party written details of the circumstances which make it urgent.

(4) The Authority:

(a) may, in its absolute discretion, decide whether or not to accede to a request under clause 8.2(3) in which case the disputing parties do not have to engage in representative negotiations, senior management negotiations or CEO negotiations; and

(b) must make a decision under clause 8.2(4)(a) within 2 business days after receiving a request under clause 8.2(3); and

(c) must notify each disputing party of its decision.

8.3 Informality and expedition

(1) Subject to the rules of natural justice, the Authority must conduct a dispute resolution with as little formality and technicality, and with as much expedition, as the requirements of this Part 8, and a proper hearing and determination of the dispute, permit.

(2) The disputing parties must at all times conduct themselves in a manner which is directed towards achieving the objective in clause 8.3(1).

8.4 Authority may determine own procedures

Subject to the rules of natural justice, the Authority may from time to time specify procedures (either of general application or in respect of all or some part of a particular dispute) for a dispute resolution including:

(a) the manner of any submissions by the disputing parties; and

(b) whether, and if so the extent to which, legal representation is permitted; and

(c) regulating the conduct of the disputing parties.

8.5 Powers of Authority

(1) Subject to the Act, this Code and the rules of natural justice, the Authority may:

(a) inform itself independently as to facts and if necessary technical matters to which the dispute relates; and

(b) receive written submissions and sworn and unsworn written statements; and

(c) consult with such other persons as the Authority thinks fit; and

(d) take such measures as the Authority thinks fit to expedite the completion of the dispute resolution; and
(e) make any order that it considers expedient to justly consider and dispose of a dispute.

Without limiting the generality of clause 8.5(1)(e), in determining a dispute the Authority may order a network operator\(^{\text{164}}\) to enter into a service level agreement on terms specified in the model service level agreement.

8.6 Timing of dispute resolution

(1) The Authority must, subject to clause 8.6(2), make a determination of the dispute within 20 business days (or within such further period as the disputing parties may agree) after,

(a) the dispute is referred to it under clause 8.2(1); or

(b) a decision by the Authority under clause 8.2(4)(a) to accede to a request under clause 8.2(3).

(2) If any disputing party considers that the dispute is of an urgent nature and needs to be resolved within a shorter period than that specified in clause 8.6(1), then that disputing party may apply to the Authority, and the Authority may reduce the period of 20 business days to such lesser period as the Authority considers appropriate having regard to the interests of all disputing parties and this Code, being not less than 10 business days.

8.7 Written determination

The Authority must deliver a written determination which sets out the reasons for its determination and the findings of fact on which the determination is based.

8.8 Dispute resolution to be held in Perth

Unless the disputing parties and the Authority agree otherwise, the dispute resolution must be held in Perth, Western Australia.

8.9 Authority’s determination and orders are binding

The Authority’s determinations and orders are binding on the disputing parties.

8.10 Costs of the Authority

The costs of the Authority are to be determined at the absolute discretion of the Authority which may direct by whom and in what manner the whole or any part of the costs are to be paid.

8.11 Referral to the Authority does not affect the obligations of the parties

The referral of any matter to the Authority does not relieve any party from performing its obligations under this Code pending the determination of the dispute.

\(^{\text{164}}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
Part 9 – Code Amendment & review

9.1 Authority may recommend amendment

(1) The Authority on its own initiative or in response to a proposal by a Code participant or other interested person may recommend to the Minister an amendment to this Code, if the Authority considers the proposed amendment would better achieve the Code objectives.

(2) The Authority must notify all Code participants if it proposes to recommend an amendment to this Code, and provide an explanation of why it considers the amendment would better achieve some or all of the Code objectives.

(3) Unless the Authority is satisfied on reasonable grounds that an amendment is urgently required, the Authority must not recommend an amendment to this Code unless:

(a) Code participants have been given a reasonable opportunity to make representations to the Authority concerning the proposed amendment; and

(b) the Authority has taken those representations into account.

(4) Before recommending an amendment to this Code, the Authority may also seek representations from other interested persons, and if it does so, the Authority must have regard to those representations.
Appendix 1 – Metering installation Types and accuracy requirements in Part 3

(Note: Refer to clause 3.9.)

A1.1 Metering installation types and accuracy requirements in Part 3

(Note: Clause 3.9(10) requires all measurements in Table 3 to Table 7 in this Appendix 1 are to be referred to 25 degrees Celsius.)

Table 3 Overall Accuracy Requirements of Metering Installation Components

<table>
<thead>
<tr>
<th>Type</th>
<th>Annual throughput at connection point</th>
<th>Maximum allowable overall error (±%) at full load</th>
<th>Minimum acceptable class or standard of components</th>
<th>Clock Error (seconds per month)</th>
<th>Minimum Meter Types</th>
<th>See also the following clauses</th>
<th>Measurement for reactive energy required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1000 GWh and above</td>
<td>0.5 1.0</td>
<td>0.2 CT/VT/Meter Wh 0.5 Meter varh</td>
<td>± 5</td>
<td>Interval meter</td>
<td>5.25</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>100 GWh to but not including 1000 GWh</td>
<td>1.0 2.0</td>
<td>0.5 CT/VT/Meter Wh 1.0 Meter varh</td>
<td>± 7</td>
<td>Interval meter</td>
<td>5.25</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>750 MWh to but not including 100 GWh</td>
<td>1.5 3.0</td>
<td>0.5 CT/VT 1.0 Meter Wh 2.0 Meter varh</td>
<td>± 10</td>
<td>Interval meter</td>
<td>5.25</td>
<td>Yes</td>
</tr>
<tr>
<td>4</td>
<td>300 MWh to but not including 750 MWh</td>
<td>1.5 NA</td>
<td>Either 0.5 CT and 1.0 Meter Wh; or whole electric current connected General Purpose Meter Wh with a data logger</td>
<td>± 20</td>
<td>Interval meter</td>
<td>3.9(6) and 5.25</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>50 MWh to but not including 300 MWh</td>
<td>1.5 NA</td>
<td>Either 0.5 CT and 1.0 Meter Wh; or whole electric current connected General Purpose Meter Wh with a data logger</td>
<td>± 20</td>
<td>Interval meter</td>
<td>3.9(6) and 5.25</td>
<td>No</td>
</tr>
<tr>
<td>6</td>
<td>Less than 50 MWh</td>
<td>1.5 NA</td>
<td>Whole electric current connected General Purpose Meter Wh</td>
<td>NA</td>
<td>Accumulation meter</td>
<td>3.9(5), 3.9(6) and 5.25</td>
<td>No</td>
</tr>
<tr>
<td>7</td>
<td>Un-metered load – see clause 3.9(2).</td>
<td>NA</td>
<td>No Meter. Techniques for determination of estimated energy data to be included in a metrology procedure.</td>
<td>NA</td>
<td>NA</td>
<td>3.9(2) and 5.25</td>
<td>No</td>
</tr>
</tbody>
</table>

Refer to Table 4 to Table 7 for intermediate loads. A reference in this Code to this Table 3 includes as required also a reference to Table 4 to Table 7.
### Table 4 Intermediate Load Accuracy Requirements for Type 1 Metering Installation - Annual Energy Throughput Greater than 1,000 GWh

<table>
<thead>
<tr>
<th>% Rated Load</th>
<th>Power Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unity</td>
</tr>
<tr>
<td></td>
<td>active</td>
</tr>
<tr>
<td>10</td>
<td>0.7%</td>
</tr>
<tr>
<td>50</td>
<td>0.5%</td>
</tr>
<tr>
<td>100</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

### Table 5 Intermediate Load Accuracy Requirements for Type 2 Metering Installation - Annual Energy Throughput between 100 and 1,000 GWh

<table>
<thead>
<tr>
<th>% Rated Load</th>
<th>Power Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unity</td>
</tr>
<tr>
<td></td>
<td>active</td>
</tr>
<tr>
<td>10</td>
<td>1.4%</td>
</tr>
<tr>
<td>50</td>
<td>1.0%</td>
</tr>
<tr>
<td>100</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

### Table 6 Intermediate Load Accuracy Requirements for Type 3 Metering Installation - Annual Energy Throughput from 750 MWh to 100 GWh

<table>
<thead>
<tr>
<th>% Rated Load</th>
<th>Power Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unity</td>
</tr>
<tr>
<td></td>
<td>active</td>
</tr>
<tr>
<td>10</td>
<td>2.0%</td>
</tr>
<tr>
<td>50</td>
<td>1.5%</td>
</tr>
<tr>
<td>100</td>
<td>1.5%</td>
</tr>
</tbody>
</table>
### Table 7 Intermediate Load Accuracy Requirements for Annual Energy Throughput Less Than 750 MWh

<table>
<thead>
<tr>
<th>% Rated Load</th>
<th>Power Factor</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unity</td>
<td>0.866 lagging</td>
<td>0.5 lagging</td>
</tr>
<tr>
<td></td>
<td>active</td>
<td>active</td>
<td>active</td>
</tr>
<tr>
<td>10</td>
<td>2.0%</td>
<td>2.0%</td>
<td>n/a</td>
</tr>
<tr>
<td>50</td>
<td>1.5%</td>
<td>1.5%</td>
<td>1.5%</td>
</tr>
<tr>
<td>100</td>
<td>1.5%</td>
<td>1.5%</td>
<td>n/a</td>
</tr>
</tbody>
</table>
Appendix 2 – Validation of Data in the Metering Database

(Note: This Appendix 2 sets out the rules and procedures for a network operator to validate energy data contained in the metering database. The validation requirements set out in this Appendix 2 are minimum requirements. A network operator may develop additional procedures that enhance the quality and reliability of the energy data, provided that these additional procedures meet the minimum requirements outlined in this Appendix 2.)

A2.1 Purpose

(1) Validation must occur within the registration process when standing data is being entered into the registry and when energy data is being entered into the metering database.

(2) Where manual meter reading is undertaken, validation must occur during that process.

A2.2 Validation within the registration process for metering installations Type 1 – 5

(1) This clause A2.2 applies in respect of Type 1 metering installations to Type 5 metering installations.

(2) The energy data read on initial registration of, or following changes to the metering point (such as a meter change or CT ratio change) must be validated. Validation of the energy data must involve:

(a) verification that the energy data correctly pertains to the registered metering installation.

(b) verification that the magnitude and profile of the energy data is correct for the primary energy and respective date/time of the energy data.

(c) verification of the initial meter installation functionality and readings.

(3) This validation must be performed prior to the acceptance and distribution of any energy data to the relevant Code participants.

A2.3 Validation within the registration process for installations Type 6

(1) This clause A2.3 applies in respect of Type 6 metering installations.

(2) The energy data read on initial registration of, or following changes to the metering point (such as a meter change) must be validated. Validation of the energy data must involve:

(a) verification that the energy data correctly pertains to the registered metering installation.

(b) verification of the initial metering installation functionality and readings.

(3) This validation must be performed prior to the acceptance and distribution of any energy data to the relevant Code participants.
A2.4 Validation within the registration process for Type 7 connection points

1. This clause A2.4 applies in respect of Type 7 connection points.

2. The requirement to validate energy data from a Type 7 connection point on registration must include:

   a. a check that the Inventory tables, Load tables and On/Off tables are complete and correct for the Type 7 connection point.

   b. verification that the energy data correctly pertains to the registered metering installation.

A2.5 Validation of energy data from Type 1 to Type 5 metering installations with check metering

1. This clause A2.5 applies in respect of Type 1 metering installations to Type 5 metering installations with full check metering.

2. Validations to be performed:

   a. comparison of revenue and check metering data. In some installations the check metering installation may not fully duplicate the revenue metering installation. The validation check may involve a validation of the transmission node by nodal balance (comparing energy fed into the bus against energy fed from the bus). In other cases the check meter may be at the other end of the transmission or distribution line or the other side of a transformer (the comparison of energies will require an adjustment for transformer losses). Analysis of the historical energy data for each metering point should indicate what percent error differences between the revenue and check meter is considered acceptable. This information should be used to refine the validation algorithms. The maximum error difference considered acceptable for any metering point is 1%. This value should be minimised for each metering point, based on historical energy data.

   b. comparison of market generator interval energy data against SCADA data: It will be necessary to construct an appropriate validation algorithm as the SCADA data may be derived from a different measurement point, be of different interval collection and or have a different base unit of measurement, e.g. power not energy value.

   c. check against a nominated maximum value: (this check must be performed in the metering database to ensure no spikes are created in the process of exporting data from the meter reading system to the metering database; this check may additionally be performed in the meter reading software). This validation should include a check of maximum value of Wh or VAh units of measure as a minimum. Maximum Varh checks may also be performed as an option (the revenue meter values are being validated against the check meter). The maximum value is to be initially set to the CT rating of the metering installation. On a per installation basis the maximum value may be increased to cater for situations where it has been confirmed that the CT is overloaded on a short-term basis.

   d. check against a nominated minimum value or alternatively a ‘zero’ check that tests for an acceptable number of zero interval values per day.

   e. check for null energy data fields in the database (no values in database) for all meters. The aim of this check is to ensure that there is a 100% data set (and any missing meter read data has been allocated substituted values). Minimum check required is to ensure that there is at least one non-null Wh or VA field per interval per meter.
(f) check for significant meter alarms (power failure, VT or phase failure, pulse overflow, CRC error and time tolerance): A process must be in place that captures these significant meter alarms within the data validation process and ensures that any meter alarm occurrences are retained as part of the data audit trail.

(g) where possible, validation of load profile data by comparison of energy values obtained from the pulse or engineering unit load profile file(s) and the meter accumulated energy registers (energy tolerance). It is acknowledged that this check would not identify CT ratio changes performed on site after initial commissioning that have not been advised to the network operator\(^{166}\). It is also recognised that there are some meter specific issues to be considered.

A2.6 Validation of energy data from Type 1 to Type 5 metering installations with partial check metering

\footnotesize{Note: This Code requires that Type 2 metering installations have at least partial check metering installed.}

(1) This clause A2.6 applies in respect of Type 1 metering installations to Type 5 metering installations with a partial check metering installation.

(2) Validations to be performed:

(a) comparison of revenue and check metering data. In some installations the check metering installation may not fully duplicate the revenue metering installation. The validation check may involve a validation of the transmission node by nodal balance (comparing energy fed into the bus against energy fed from the bus). In other cases the check meter may be at the other end of the transmission or distribution line or the other side of a transformer (the comparison of energies will require an adjustment for transformer losses). Analysis of the historical energy data for each metering point should indicate what percent error differences between the revenue and check meter is considered acceptable. This information should be used to refine the validation algorithms. The maximum error difference considered acceptable for any metering point is 1%. This value should be minimised for each metering point, based on historical energy data.

(b) comparison of market generator interval data against SCADA data: It will be necessary to construct an appropriate validation algorithm in accordance with the metrology procedure as the SCADA data may be derived from a different measurement point, be of different interval collection and or have a different base unit of measurement, e.g. power not energy value.

(c) check against a nominated maximum value: (this check must be performed in the database to ensure no spikes are created in the process of exporting data from the meter reading system to the database; this check may additionally be performed in the meter reading software). This validation should include a check of maximum value of Wh or VAh units of measure as a minimum. Maximum Varh checks may also be performed as an option (the revenue meter values are being validated against the check meter). The maximum value is to be initially set to the CT rating of the metering installation. On a per installation basis the maximum value may be increased to cater for situations where it has been confirmed that the CT is overloaded on a short-term basis.

(d) check against a nominated minimum value or alternatively a ‘zero’ check that tests for an acceptable number of zero interval values per day.

\footnotesize{\(^{166}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”."}
(e) check for null energy data fields in the database (no values in database) for all meters. The aim of this check is to ensure that there is a 100% data set (and any missing meter read data has been allocated substituted values). Minimum check required is to ensure that there is at least one non-null Wh or VA field per interval per meter.

(f) check for significant meter alarms (power failure, VT or phase failure, pulse overflow, CRC error and time tolerance): A process must in place that captures these significant meter alarms within the data validation process and ensures that any meter alarm occurrences are retained as part of the data audit trail.

(g) where possible, validation of load profile data by comparison of energy values obtained from the pulse or engineering unit load profile file(s) and the meter accumulated energy registers (energy tolerance). It is acknowledged that this check would not identify CT ratio changes performed on site after initial commissioning that have not been advised to the network operator. It is also recognised that there are some meter specific issues to be considered.

A2.7 Validation of energy data from Type 1 to Type 5 metering installations with no check metering

{Note: The majority of these metering installations will be Type 3 metering installations or below.}

(1) This clause A2.7 applies in respect of Type 1 metering installations to Type 5 metering installations with no check meter.

(2) Validations to be performed:

(a) check against a nominated maximum value: (this check must be performed in the database to ensure no spikes are created in the process of exporting of data from the meter reading system to the database; this check may additionally be performed in the meter reading software). This validation should include a check of maximum value of Wh and Varh or VAh units of measure as a minimum. The maximum value is to be initially set to the CT rating of the metering installation if a CT is installed, or the rating of the meter if a direct connected meter is installed. On a per installation basis the maximum value may be increased to cater for situations where it has been confirmed that the CT or meter is overloaded on a short-term basis.

(b) check against a nominated minimum value or alternatively a ‘zero’ check that tests for an acceptable number of zero interval values per day.

(c) check for null energy data fields in the database (no values in database) for all meters. The aim of this check is to ensure that there is a 100% data set (and any missing meter read data has been allocated substituted values). Minimum check required is to ensure that there is at least one non-null Wh or VA field per interval per meter.

(d) check for significant meter alarms (power failure, VT failure, pulse overflow, CRC error and time tolerance): A process must in place that captures these significant meter alarms within the data validation process and ensures that any meter alarm occurrences are retained as part of the data audit trail.

(e) where possible, validation of load profile data by comparison of energy values obtained from the pulse or engineering unit load profile file(s) and the meter cumulative registers (energy tolerance). It is acknowledged that this check

167 If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
would not identify CT ratio changes on site after initial commissioning that have not been advised to the network operator\textsuperscript{168}. It is also recognised that there are some meter specific issues to be considered.

(f) where no check meter is available consideration should be given to developing additional validation techniques.

A2.8 Validation of energy data from Type 6 metering installations

(1) This clause A2.8 applies in respect of Type 6 metering installations.

(2) Validations to be performed:

(a) Check against a nominated minimum meter read value.

(b) Check against a nominated maximum meter read value.

(c) Meter read value is numeric and >= 0.

(d) Meter reading date > previous meter reading date.

(e) Check for null energy data fields in the metering database (no values in database) for all meters. The aim of this check is to ensure that there is a 100% data set (and any missing meter read data has been allocated substituted values).

A2.9 Validation of energy data for Type 7 connection points

(1) This clause A2.9 applies in respect of Type 7 connection points.

(2) Validations to be performed:

(a) check against a nominated maximum energy data value.

(b) check for null energy data fields in the database (no values in database) for all meters. The aim of this check is to ensure that there is a 100% data set (and any missing energy data has been allocated substituted values). Minimum check required is to ensure that there is at least one non-null Wh field per interval per meter.

(c) check the Inventory tables, Load tables and On/Off tables to ensure that the correct version of the tables are being used for the energy data calculations.

(d) check against a nominated minimum value or alternatively a ‘zero’ check that tests for an acceptable number of zero interval values per day.

(e) check that the energy data date > previous energy data date.

A2.10 Validation within the meter reading process for Type 5 and Type 6 metering installations

(1) This clause A2.10 applies in respect of Type 5 metering installations and Type 6 metering installations.

\textsuperscript{168} If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”. 
(2) **Validations** to be performed:

(a) New *meter* reading $\geq$ previous *meter* reading

(b) *Meter* reading is valid against an expected minimum value.

(c) *Meter* reading is valid against an expected maximum value.

(d) Installed *meter* number is correct against recorded number.

(e) Time synchronisation of *metering equipment* inclusive of any *load control* devices.

(f) Security of *metering installation*, e.g. *meter* seals in place and in good order.
Appendix 3 – Data Substitution and Estimation

(Note: This Appendix 3 sets out the rules for the network operator to carry out substitution and estimation of energy data during the process of collection and transfer to the metering database.)

A3.1 Purpose

(1) Substitution or estimation must occur when the energy data is unavailable or fails the validation process.

(2) For all data substitutions, care and attention must be exercised to ensure that the selected substitution period includes any questionable “valid” data points at each extremity of the lost or “invalid” data period.

A3.2 Data substitution and estimation rules for Type 1 to Type 5 metering installations

(1) This clause A3.2 applies in respect of Type 1 metering installations to Type 5 metering installations.

(2) The network operator must obtain clear and concise identification as to the cause of any apparent lost or erroneous data related to any substitutions carried out.

(3) The network operator may do all data substitution types, except method 16, without prior agreement with the affected parties.

(4) All respective Code participants must be notified of any substitution or estimation within 2 business days after the day of the data substitution or estimation being carried out, or such other period as may be agreed.

(5) In the event of a communications failure it may be necessary to obtain energy data by means of a manual download at the meter if the network operator cannot obtain quality energy data within the required time frames.

(6) Unless reliable check metering data exists for generating plant, substitutions may not be performed without prior consultation with the generator. SCADA data is considered to be check metering data for the purpose of data substitutions.

A3.3 Data substitution and estimation methods for Type 1 to Type 5 metering installations

(Note: Substitution methods 11 to 18 apply to Type 1 metering installations to Type 4 metering installations. Substitution methods 51 to 56 apply to Type 5 metering installations.)

(1) This clause A3.3 applies in respect of Type 1 metering installations to Type 5 metering installations.

(2) Substitution Method 11

(a) Interval energy data obtained from another meter at the same measurement point for the same interval data periods as that being substituted for may be

---

169 If clause 5.29(b) applies, read “network operator” as “metering data agent”.

170 If clause 5.29(b) applies, read “network operator” as “metering data agent”.

171 If clause 5.29(b) applies, read “network operator” as “metering data agent.”
used for substitution purposes, e.g. installations where revenue and check meters are installed.

(b) Method 11 substitutions also include the use of data from similar meters where the load profile of the second meter is a good match to the load profile of the meter for which substitutions are being made, e.g. where meters are installed on each end of a transmission line where the difference due to line losses can be accurately determined; where meters are installed on parallel feeders where supply is ‘to’ and ‘from’ common buses and line impedances are similar.

(3) Substitution Method 12

Data values may be calculated for an unknown feed to a node based on the other known energy flows to or from that node.

(4) Substitution Method 13

(a) Data from an energy management system or SCADA data may be used for substitution purposes, where the data originates from a similar measurement point as the meter for which substitutions are being made.

(b) Data from an energy management system or SCADA data may be data which is inferior in accuracy or resolution and which is in a dissimilar format to the energy data, (e.g. 30 Min. demand values). It may be necessary to adjust the data in both magnitude and form in order that the substitution is of an acceptable quality.

(5) Substitution Method 14

Where data substitution methods 11, 12, and 13 cannot be carried out, then the network operator\(^{172}\) may substitute for the missing data using the “Nearest Equivalent Day” or “Like Day” method, as detailed in the table below.

<table>
<thead>
<tr>
<th>Substitution Day</th>
<th>“Nearest Equivalent Day” or “Like Day” (in order of availability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Monday ***</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Tuesday ●● Wednesday ●● Thursday ●● Wednesday ● Thursday ●</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Wednesday ●● Tuesday ● Thursday ●● Thursday ● Tuesday ●●</td>
</tr>
<tr>
<td>Thursday</td>
<td>Thursday ●● Wednesday ● Tuesday ● Wednesday ●● Tuesday ●●</td>
</tr>
<tr>
<td>Friday</td>
<td>Friday ●●</td>
</tr>
<tr>
<td>Saturday</td>
<td>Saturday ●●</td>
</tr>
<tr>
<td>Sunday</td>
<td>Sunday ●●</td>
</tr>
</tbody>
</table>

Substitutions for ‘Like Day’ to be as detailed above, unless:
1. If no readings are available on the first listed day, then the next listed preferred day is to be used.
2. The substitution day was a public holiday, in which case the most recent Sunday is to be used.
3. The substitution day was not a public holiday and the ‘Like Day’ is a public holiday, in which case the substitution ‘Like Day’ to be used must be the most recent business day.
   ●● Occurring in the week preceding that in which the substitution day occurs.
   ● Occurring in the same week as the substitution day

\(^{172}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

---
(6) Substitution Method 15

Where data substitution methods 11, 12, and 13 cannot be carried out, then the network operator\textsuperscript{173} may substitute for the missing data using the “Nearest Equivalent Day” or “Like Day” method, as detailed in the Table below.

\begin{center}
\textbf{METHOD 15}
\end{center}

<table>
<thead>
<tr>
<th>The intervals to be substituted will be plugged using an average of each interval from the proceeding 4 weeks, or part thereof. This averaging technique may be applied in the following ways:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) where the averaged intervals are simply ‘plugged’ into the intervals requiring substitution.</td>
</tr>
<tr>
<td>b) where the averaged intervals are used to provide the profile for the ones to be ‘plugged’ to a predetermined number of pulses for the total substitution period.</td>
</tr>
</tbody>
</table>

However if data is required to be substituted for a public holiday then the most recent available Sunday will be used.

(7) Substitution Method 16

(a) Where data substitution is required for any period greater than 7 days, consideration, consultation and agreement must take place between the affected parties to resolve any abnormal equivalent days that may be applicable.

(b) Method 16 substitutions are:

(i) data substitutions of any format for periods greater than 7 days that are based on an agreement between all the affected parties;

(ii) changes to existing substitutions for any period that are carried out where the affected parties have directed that as a result of site or customer specific information, the original substitutions are in error.

(8) Substitution Method 17

Data substitutions for periods up to, but not exceeding 2 hours, may be carried out by simple linear interpolation.

(9) Substitution Method 18

This substitution method covers the situation where an alternate method of substitution has been agreed with the market participant, the applicable user and the network operator\textsuperscript{174}. This may be a globally applied method or a site specific method where an adjusted profile is used to take into account local conditions which affect consumption (e.g. local holiday or customer shutdown), or where alternate data may be able to be used for quality checks and minor adjustments of an estimated profile such as using meter register data.

\textsuperscript{173} If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\textsuperscript{174} If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(10) Substitution Method 51

This method is known as the Previous Years Method. Where data substitution methods 11, 12, and 13 cannot be carried out, then the network operator\(^{175}\) may substitute for the missing data using the “Nearest Equivalent Day” or “Like Day” method, as detailed in the Table below.

<table>
<thead>
<tr>
<th>Substitution Day</th>
<th>“Nearest Equivalent Day” or “Like Day” (in order of availability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Monday ♦♦ Monday ♦</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Tuesday ♦♦ Wednesday ♦ ♦ Tuesday ♦ Wednesday ♦</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Wednesday ♦♦ Tuesday ♦ ♦ Tuesday ♦ Wednesday ♦ ♦ Thursday ♦ Tuesday ♦</td>
</tr>
<tr>
<td>Thursday</td>
<td>Thursday ♦♦ Wednesday ♦ ♦ Tuesday ♦ ♦ Thursday ♦ ♦ Wednesday ♦ Tuesday ♦</td>
</tr>
<tr>
<td>Friday</td>
<td>Friday ♦♦ Friday ♦</td>
</tr>
<tr>
<td>Saturday</td>
<td>Saturday ♦♦ Saturday ♦</td>
</tr>
<tr>
<td>Sunday</td>
<td>Sunday ♦♦ Sunday ♦</td>
</tr>
</tbody>
</table>

Substitutions for ‘Like Day’ to be as detailed above, unless:
1. If no readings are available on the first listed day, then the next listed preferred day is to be used.
2. The substitution day was a public holiday, in which case the most recent Sunday is to be used.
3. The substitution day was not a public holiday and the ‘Like Day’ is a public holiday, in which case the substitution ‘Like Day’ to be used must be the most recent business day.

♦♦ Occurring in the same week as the substitution day in the previous year.
♦ Occurring in the week preceding that in which the substitution day occurs in the previous year.

(11) Substitution Method 52

This method is known as the Previous Meter Reading Method. Where data substitution methods 11, 12, and 13 cannot be carried out, then the network operator\(^{176}\) may substitute for the missing data using the “Nearest Equivalent Day” or “Like Day” method, as detailed in the Table below.

<table>
<thead>
<tr>
<th>Substitution Day</th>
<th>“Nearest Equivalent Day” or “Like Day” (in order of availability)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Monday ♦♦ Monday ♦</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Tuesday ♦♦ Wednesday ♦ ♦ Tuesday ♦ Wednesday ♦</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Wednesday ♦♦ Tuesday ♦ ♦ Tuesday ♦ ♦ Wednesday ♦ ♦ Thursday ♦ Tuesday ♦</td>
</tr>
<tr>
<td>Thursday</td>
<td>Thursday ♦♦ Wednesday ♦ ♦ Tuesday ♦ ♦ Thursday ♦ ♦ Wednesday ♦ Tuesday ♦</td>
</tr>
<tr>
<td>Friday</td>
<td>Friday ♦♦ Friday ♦</td>
</tr>
<tr>
<td>Saturday</td>
<td>Saturday ♦♦ Saturday ♦</td>
</tr>
<tr>
<td>Sunday</td>
<td>Sunday ♦♦ Sunday ♦</td>
</tr>
</tbody>
</table>

Substitutions for ‘Like Day’ to be as detailed above, unless:
1. If no readings are available on the first listed day, then the next listed preferred day is to be used.
2. The substitution day was a public holiday, in which case the most recent Sunday is to be used.
3. The substitution day was not a public holiday and the ‘Like Day’ is a public holiday, in which case the substitution ‘Like Day’ to be used must be the most recent business day.

♦♦ Occurring in the last whole week of the previous meter reading period.
♦ Occurring in the week preceding the last whole week of the previous meter reading period.

\(^{175}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.

\(^{176}\) If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(12) Substitution Method 53

(a) Where data substitution is required for any period greater than 7 days, consideration, consultation and agreement must take place between the affected parties to resolve any abnormal equivalent days that may be applicable.

(b) Method 53 substitutions are:

(i) data substitutions of any format for periods greater than 7 days that are based on an agreement between all the affected parties;

(ii) changes to existing substitutions for any period that are carried out where the affected parties have directed that as a result of site or customer specific information, the original substitutions are in error.

(13) Substitution Method 54

Data substitutions for periods up to, but not exceeding 2 hours, may be carried out by simple linear interpolation.

(14) Substitution Method 55

This substitution method covers the situation where an alternate method of substitution has been agreed with the market participant, the applicable user and the network operator177. This may be a globally applied method or a site specific method where an adjusted profile is used to take into account local conditions which affect consumption (e.g. local holiday or customer shutdown), or where alternate data may be able to be used for quality checks and minor adjustments of an estimated profile such as using meter register data.

(15) Substitution Method 56

This substitution method covers the situation where a substitution for interval energy data is required for a period prior to the first meter read. The data substitution must be done in accordance with an approved metrology procedure.

A3.4 Data substitution and estimation rules for Type 6 metering installations

(1) This clause A3.4 applies in respect of Type 6 metering installations.

(2) The network operator178 may apply the following substitution and estimation methods:

(a) Substitutions may be method 61, 62, 63, or 64.

(b) Estimations may be method 61,62 or 65.

(3) All affected parties must be notified of any substitution or estimation within 2 business days after the data substitution or estimation being carried out, or such other period as may be agreed.

A3.5 Data substitution and estimation methods for Type 6 metering installations

(1) This clause A3.5 applies in respect of Type 6 metering installations.

---

177 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
178 If clause 5.29(b) applies, read “network operator” as “metering data agent”.
(2) Substitution Method 61: Previous Year Method (average daily consumption).

Substituted or estimated meter reading = average daily consumption from the same or similar meter reading period last year multiplied by number of days required to be substituted.

(3) Substitution Method 62: Previous Meter Reading Method (average daily consumption).

Substituted or estimated meter reading = average daily consumption from the previous meter reading period multiplied by the number of days required to be substituted or estimated. Where the scheduled meter reading frequency is less frequent than monthly, this substitution or estimation method is to be used only when the consumption from the same, or similar, meter reading period last year is not available.

(4) Substitution Method 63: Customer Class Method.

Substituted meter reading = average daily consumption for this customer class with the same type of usage multiplied by number of days required to be substituted.

(a) Method 63 is to be used only when the consumption from the same, or similar, meter reading period last year and the consumption from the previous meter reading period is not available.

(b) Customer classes are Residential, Non-Residential, Farm and Public Lighting.

(c) Types of usage are peak and off-peak.

(5) Substitution Method 64; Agreed Method.

(a) The market participant, the applicable user and the network operator¹⁷⁹ may agree to use another method of substitution (which may be a modification of an existing substitution method) where none of the existing substitution methods is applicable.

(b) The specifics of this substitution method may involve a globally applied method or a site-specific method.

(6) Substitution Method 65: Estimation by average daily consumption.

Estimate = average daily consumption multiplied by number of days required to be estimated.

Estimation method 65 is to be used only when the consumption from the same, or similar, meter reading period last year and the consumption from the previous meter reading period are not available.

A3.6 Substitution and estimation rules for Type 7 connection points

This clause A3.6 applies in respect of Type 7 connection points.

The network operator¹⁸⁰ may apply method 71, 72, 73, or 74 substitution methods.

All affected parties must be notified of any substitution or estimation within 2 business days of the data substitution or estimation being carried out, or such other period as may be agreed.

¹⁷⁹ If clause 5.29(b) applies, read “network operator” as “metering data agent”.

¹⁸⁰ If clause 5.29(b) applies, read “network operator” as “metering data agent”.

A3.7 Data substitution and estimation for Type 7 connection points

(1) This clause A3.7 applies in respect of Type 7 connection points.

(2) Substitution Method 71: Recalculation

The energy data is substituted with the energy data obtained by a recalculation based on the current Inventory tables, Load tables and On/Off tables.

(3) Substitution Method 72: Revised tables.

Where the error in the calculation of the energy data is due to errors in the Inventory table, Load Table or On/Off table, the energy data is substituted with the energy data obtained by a recalculation based on the most recent Inventory tables, Load tables and On/Off tables for which there was no error.

(4) Substitution Method 73: Revised Algorithm.

Where the error in the calculation of the energy data is due to an error in the algorithm, the energy data is substituted with the most recent energy data for which there was no error.

(5) Substitution Method 74: Agreed Method.

(a) The market participant, the applicable user and the network operator\(^{181}\) may agree to use another method of substitution (which may be a modification of an existing substitution method) where none of the existing substitution methods is applicable.

(b) The specifics of this substitution method may involve a globally applied method or a site-specific method.

\(^{181}\) If clause 5.29(b) applies, read "network operator" as "metering data agent".
Appendix 4 – Details of Available Metering Services

A4.1 Request for metering services

[Note: A metering service order includes a customer transfer request under the Customer Transfer Code.]

(1) A network operator’s\(^{182}\) metering service order form must require the user to provide the following information:

(a) either or both of the name and, if applicable, identification number or code of the user submitting the request for a metering service; and

(b) either:

(i) if the network operator has not allocated a NMI for the metering point — the customer’s:

name; and

location identifier or lot number and, if applicable, unit number; and

street number; and

street; and

suburb or district; and

meter number(s),

or

(ii) if the network operator has allocated a NMI for the metering point — the customer’s NMI and checksum;

and

(c) the type(s) of metering service being requested; and

(d) the user’s metering service order identifier, to enable the metering service order to be tracked.

(2) A network operator\(^{183}\) must develop a metering service order form suitable for transmission by electronic communication for use by users and may make a metering service order form available on its websites.

(3) Upon the successful, or unsuccessful, completion of the work, or the cancellation of a metering service order, the network operator\(^{184}\) must send a response to the user with details of the status of the requested work.

---

\(^{182}\) If clause 5.29(b) applies, read “network operator’s” as “network operator’s and metering data agent’s”.

\(^{183}\) If clause 5.29(b) applies, read “network operator” as “network operator and metering data agent”.

\(^{184}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
Completion of a metering service order may result in either or both of changes to standing data and collection of energy data, in which case the provisions of this Code apply.

A user may provide the network operator\(^{185}\) with a preferred appointment date and time for the network operator\(^{186}\) to carry out the metering service order.

The network operator\(^{187}\) must make reasonable endeavours to perform the metering service order at the preferred date and time provided under clause A4.1(5).

Unless otherwise agreed, a user who wishes to revise a previously-notified preferred date and time must:

1. request the network operator\(^{188}\) to cancel the metering service order, and
2. submit a new metering service order for the same NMI and type of metering service, specifying the new preferred date and time, and a new metering service order identifier.

**A4.2 Request for cancellation of a metering service order**

1. A network operator\(^{189}\) must publish a form to allow a user to request the network operator\(^{190}\) to cancel a metering service order.

2. The metering service order cancellation form must require user to provide:
   1. the metering point’s NMI; and
   2. the user’s metering service order identifier.

3. Upon receipt of a request to cancel a metering service order, the network operator\(^{191}\) must use reasonable endeavours to ensure that the previously requested work is not carried out and costs are not incurred.

4. A service level agreement (and a model service level agreement) may provide that, to the extent that the network operator complies with clause A4.2(3), the user must pay to the network operator the amount incurred by the network operator, acting efficiently in accordance with good electricity industry practice, before the work or costs were able to be stopped or cancelled.

5. The network operator must provide evidence to the user of the amount referred to in clause A4.2(4).

---

\(^{185}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

\(^{186}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

\(^{187}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

\(^{188}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

\(^{189}\) If clause 5.29(b) applies, read “network operator” as “network operator and metering data agent”.

\(^{190}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.

\(^{191}\) If clause 5.29(b) applies, read “network operator” as “network operator or metering data agent”.
Appendix 5 – Transitional – metering services provided by the electricity networks corporation

{See clause 6.3(3).}

Table 8 Metering Services and Charges

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>SERVICE LEVEL</th>
<th>CHARGE², ³, ⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area M²</td>
<td>Area N²</td>
</tr>
<tr>
<td>DATA PROVISION, DATA COLLECTION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Bi-monthly meter reading</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2. Monthly meter reading</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3. Off-cycle meter reading</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4. Self meter reading</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>5. Energy interval data up to 35 days – manually collected</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>6. Energy interval data up to 35 days – remotely collected (monthly)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7. Energy interval data up to 35 days – remotely collected (daily)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8. Energy data (up to 12 months before the date of request or part thereof)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>9. Standing data provision</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10. Energy interval data produced by survey meter (excluding meter costs)</td>
<td>37</td>
<td>42</td>
</tr>
<tr>
<td>11. Additional energy data (13 months plus)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>METER PROVISION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Establishment of network connection point</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>13. CT interval meter upgrade (includes meter cost)</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>14. CT interval meter installation (includes meter cost)</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>15. Direct interval meter installation three phase (includes meter cost)</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>16. Direct interval meter installation single phase (includes meter cost)</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>17. Direct meter change single phase (includes meter cost)</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>18. Direct meter change three phase (includes meter cost)</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>19. Direct interval meter change three phase (includes meter cost)</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>20. Direct interval meter change single phase (includes meter cost)</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>SERVICE</td>
<td>SERVICE LEVEL&lt;sup&gt;1&lt;/sup&gt;</td>
<td>CHARGE&lt;sup&gt;2, 3, 4&lt;/sup&gt;</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td></td>
<td>Area M&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Area N&lt;sup&gt;6&lt;/sup&gt;</td>
</tr>
<tr>
<td>21. Direct meter de-energisation single phase and three phase</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>22. Direct meter energisation single phase and three phase</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>23. Meter investigation</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>24. <em>Communications link</em> installation to existing compatible interval meter</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>25. <em>Communications link</em> installation concurrent with interval meter installation</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

**TECHNICAL SERVICES**

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>CHARGE&lt;sup&gt;2, 3, 4&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Meter program development</td>
<td>P.O.A.&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>27. Enablement of customer signal capabilities and signal maintenance (<em>charge per day</em>)</td>
<td>$0.60</td>
</tr>
<tr>
<td>28. Option to pay up front capital cost to retrospectively fit customer signal (excludes maintenance of customer signals)</td>
<td>$220.00</td>
</tr>
<tr>
<td>29. Option to pay up front capital cost to enable customer signal when meter installed (excludes maintenance of customer signals)</td>
<td>$150.00</td>
</tr>
<tr>
<td>30. Maintenance of customer signals for items 28 and 29</td>
<td>5</td>
</tr>
<tr>
<td>31. Meter test – laboratory (single Phase)</td>
<td>7</td>
</tr>
<tr>
<td>32. Meter test – laboratory (three Phase)</td>
<td>7</td>
</tr>
<tr>
<td>33. Meter test – on-site (single phase)</td>
<td>5</td>
</tr>
<tr>
<td>34. Meter test – on-site (three phase)</td>
<td>5</td>
</tr>
<tr>
<td>35. Meter audit – on-site (CT metering)</td>
<td>5</td>
</tr>
</tbody>
</table>

<sup>1</sup> The service level is measured in *business days*.

<sup>2</sup> Where the *charge* is shown as "(plus travel)" the metropolitan area *charge* applies plus a travel time *charge* at the rate of $85 per hour. All travel commences from the Perth metropolitan area. Where air travel is involved the cost of the airfare and accommodation also applies.

<sup>3</sup> The *charge* which may be imposed may not exceed the costs that would be incurred by a *network operator* acting in good faith and in accordance with *good electricity industry practice*, seeking to achieve the lowest sustainable costs of providing the service.

<sup>4</sup> The *charge* is to be determined in accordance with the model access contract which forms part of the *access arrangement* approved under the *Access Code*. If no separate *charge* is specified in the *access arrangement*, the *charge* is bundled into the reference tariffs specified in the *access arrangement*.

<sup>5</sup> Area M is the *metropolitan area*.

<sup>6</sup> Area N is the non-metropolitan area.