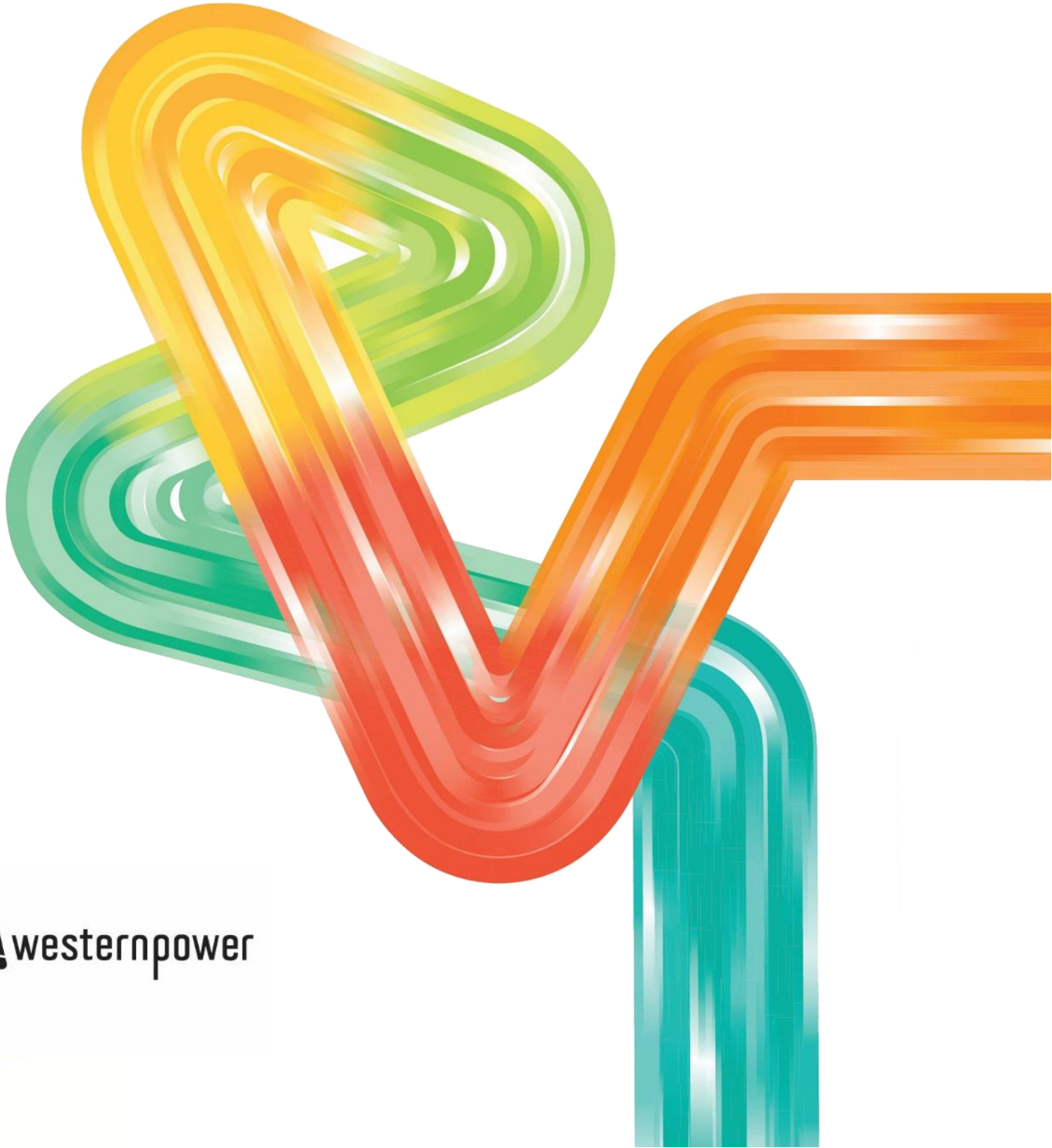
Report on amendments to the Western Australia Electricity Market Metrology Procedure 2021

1 October 2021



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Overview

The *"Western Australian Electricity Market Metrology Procedure for Metering Installations"* (Metrology Procedure) was developed in 2006, as required by clauses 6.2 and 6.8 of the *Electricity Industry Metering Code 2005* (Metering Code). The Metering Code was amended in 2012 and reissued as the *Electricity Industry Metering Code 2012* (Metering Code).

In 2015 the Economic Regulation Authority (ERA) approved an updated Metrology Procedure[1] that incorporated the 2012 Metering Code amendments and further details metering business practices.

Further amendments to the Metering Code were gazetted[2] on 19 August 2021 which required Western Power, by 1 October 2021, to submit an updated Metrology Procedure to the ERA for its approval.

This report has been prepared to address the document consultation requirements of clause 6.11 of the Metering Code through:

- identifying and providing an explanation for every significant change made to the Metrology Procedure by Western Power during the review process;
- detailing the consultation process with Code participants; and
- outlining the issues raised, including copies of submissions, with Western Power's response, and where necessary, action taken, or to be taken.

Western Power reviewed and updated the Metrology Procedure, after the gazettal of the 2021 Metering Code amendments in preparation for industry consultation.

On 16 September 2021, Western Power held an online (recorded) customer forum which provided Code participants and other invited interested parties with a walkthrough of the updates, as well as an opportunity to ask questions and provide feedback. Invitees were sent a draft of the updated Metrology Procedure prior to the customer forum and were asked to provide submissions by COB on 24 September 2021.

Participants raised a number of queries that informed further updates for the final revised Metrology Procedure 2021.

Amendments made to the Metrology Procedure by Western Power and as a result of participants' queries are addressed in **section 1** and are listed in full in **Appendix A**.

Details of participants' queries and Western Power's response are included in **section 2**.

The revised Metrology Procedure 2021 is consistent with the Metering Code and the amendments made through the review process, have maintained this consistency and serve to reinforce the Metering Code.

[1] Renamed to *Metrology Procedure for Metering Installations on the Western Power Network*
[2] *Electricity Industry (Metering) Amendment Code 2021*

1. Revised Metrology Procedure 2021

The review and update of the Metrology Procedure primarily focused on aligning with the 19 August 2021 gazettal of the Electricity Industry (Metering) Amendment Code 2021 (paragraph 30. clause 6.22) as well as some additional minor amendments to improve technical accuracy and clarity.

1.1 Summary of key changes to the Metrology Procedure

The key changes made to the Metrology Procedure include:

- The Meter Assets and Data Management Provisions sections have been updated to reflect 5 minute settlement;
- Replaced reference to “a Type 7” with “unmetered” within various clauses;
- Incorporated changes referenced in the Electricity Industry (Metering) Amendment Code 2021, such as updates to clauses and text; and
- Several commonly used terms have been defined.

In addition to the key changes outlined above, Western Power reviewed and assessed whether updates were required for estimating weekly energy data for contestable interval metering installations. Western Power’s view is that the current Metrology Procedure contains adequate processes for estimating weekly energy data.

1.2 Details of amendments to the Metrology Procedure

Appendix A provides details of the changes to the 2015 Metrology Procedure made by Western Power and in response to participant’s queries, along with the reasons for the changes.

2. Code participant queries

2.1 Amendments made arising from Code participant queries

Although no formal submissions were received from Code participants, a number of queries informed further updates for the final revised Metrology Procedure 2021. Table 2.1 provides details of the items raised by Code participants and agreed to by Western Power.

Table 2.1: Metrology Procedure amendments following queries and discussions with Code participants

Section(s)/Revised Wording 2021 Procedure	Western Power Comments
Code participant query: Collgar Windfarm: Does clause 2.2.6 in the Metrology Procedure need updating to reflect the amendments to clauses 3.2(2) and 3.2(2A) in the Metering Code?	
2.2.6 Where a Type 4 *meter* or a Type 6 *meter*, in a *metering installation* associated with a *non-contestable customer*, is capable of recording both *interval energy data* and *accumulated energy data*, it will be treated as an accumulation meter, unless otherwise agreed between *Western Power* and the *retailer*.	To avoid confusion with the minimum requirement for Type 4 from 1 January 2022, clause 2.2.6 has been amended to preserve the accumulation deeming option for non-contestable customers for the purposes of alignment with the WEM rules. This means Western Power will not be required to provide all AMI meters interval data to AEMO except for contestable customer or as agreed otherwise.
1.4.1 Definitions *non-contestable customer* has the same meaning in this Metrology Procedure as the meaning given to it in the Code.	New Definition added
Code participant query: Collgar Windfarm: Does clause 2.2.7 in the Metrology Procedure need updating to reflect the new requirements (and limitations) in clause 3.16(3B) in the Metering Code?	
2.2.7 Where a *metering installation* includes a Type 5 *meter* that is read as an *accumulation meter*, the *meter* will not be replaced by or, reconfigured to, an interval-read *meter* without the agreement of the *retailer,* except: (a) where another *retailer* has requested an interval survey, at which point it will be necessary to permanently convert the *meter* to an interval-read *meter*; or (b) where the *connection point* is due to *transfer* to another *retailer*, under which circumstances it may be necessary to replace or reprogram the *meter* to interval-read a few days prior to the formal *transfer;* or (c) as reasonably required to comply with the *Metering Code.*	The addition of clause 2.2.7(c) to align with the Metering Code amendments and support 5-minute metering and the objective of moving all contestable customers to interval meters

2.2 Code participant queries not incorporated

Items raised by Code participants that did not require or result in a change to the final reviewed Metrology Procedure are detailed in Table 2.2. All items raised were fully considered by Western Power and discussed with the Code participant.

In Western Power's view, a number of items raised are not within the scope of this Metrology Procedure review and are more related to the Metering Code, the Wholesale Electricity Market Rules and standards of industry practice.

Table 2.2: Items raised by Code participants but not incorporated in the revised Metrology Procedure

Company	Query	Western Power's Response
AEMO	What time length do you intend to aggregate interval data? Contestable data, 5 minutes from when?	There are two - for contestable, they will be 5 minutes and for non-contestable, they will be 30 minutes. 1 October 2025 was the date approved by the Energy Transformation Taskforce. The Minister for Energy will gazette the date as agreed with relevant stakeholders at a future date.
EPWA	Do you expect 'metering points' to be differently located from the network connection points? Can you elaborate on the practical implications of the change please?	The metering point is where the meter is installed. The connection point is as per the Electricity Networks Access Code 2004 The meters are always installed at the metering point, but not always at the connection point itself. Western Power is not aware of any practical implications due to these definition changes.
Collgar	Meter types are still defined in the Metering Code based on the connection point (Appendix 1 tables), as is contestability. What is effect of changing connection point to metering point in some clauses in the Metrology Procedure, given the use of connection point for these matters?	In the revised Metrology Procedure, Western Power will use Table 3 in Appendix 1 of the amended Metering Code for guidance on the meter type. The annual throughput is defined in respect to the type of connection. At every metering point the energy flow in both directions is calculated to determine the type of connection.
Collgar	For the testing - does Western Power do all of this? Or are there obligations on Market Participants about testing as well? More for a generation facility rather than retail.	These obligations are on Western Power. Western Power works alongside customers to facilitate our obligations; however, we are responsible for the testing and inspection of the assets and metering installation. Western Power works alongside generators, for example with outages, and facilitates the testing with minimal disturbance.
Metro Power	3.6.3 It appears customer pulse signals proposed to be replaced with read-only access to meters. This may mean a customer would need meter-OEM specific software? Pulse signals are widely adopted. Is there still provision?	There is no reduction in Metering services envisaged as part of the proposed changes. The pulse signal provision has been allowed for in the Code, for customer use. Western Power provides pulse signal features, as an extended metering service if retailers request pulse outputs. Technology advancements have allowed this feature to be delivered through a new Modbus arrangement.

Company	Query	Western Power's Response
Alinta	With the charges that come with CT & VT testing (depending on scale of power), will the costs get passed through to a retailer? Also is the customer responsible for traffic management costs and arrangements, as per the testing schedule?	Western Power undertakes Current Transformer (CT) & Voltage Transformer (VT) testing at the start, during the commissioning phase, of an installation. Charges/costs are agreed with retailers and customers on a case-by-case basis.
All	How do these changes affect market retailers?	The Metrology Procedure is a governance document for Western Power. Western Power, as the network operator and meter provider, determine, select, and install the correct components according to the meter type and requirements of the meter point specifications. As such, these updates should have minimal impacts on market retailers. The may, however, be some future system change requirements arising from the five-minute settlement changes (proposed to be effective from 1 Oct 2025).

Appendix A

Metrology Procedure amendments

Revised Metrology Procedure 2021

A.1 Metrology Procedure amendments

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
1.2.3	It should be noted that the *Metrology Procedure* presents the minimum requirements and does not preclude a *meter* supplier, *or Western Power* from deploying products or developing processes that exceed or complement the requirements described herein, provided that such features are compatible with the requirements of the *Metrology Procedure*. For example, the deployment of *meters* with *enhanced technology* features or the future provision of *interval meters* for connection *points* with low annual consumption.	It should be noted that the *Metrology Procedure* presents the minimum requirements and does not preclude a *meter* supplier, *or Western Power* from deploying products or developing processes that exceed or complement the requirements described herein, provided that such features are compatible with the requirements of the *Metrology Procedure*. For example, the deployment of *meters* with *enhanced technology* features or the future provision of *interval meters* for metering *points* with low annual consumption or production.	connection point replaced with metering point, or production added	As per the amended Metering Code
1.3.2	This *Metrology Procedure* comes into operation 3 months after the date of publication.	This *Metrology Procedure* comes into operation as at the effective date on the front page.	3 months after the date of publication amended to as at the effective date on the front page	As per the amended Metering Code
1.4.1 **Definitions** *5MS meter*		*5MS meter* means a five-minute settlement meter, being a *metering installation* for a *connection point* on the SWIN that is associated with a *contestable customer* or a *generator*.	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *30-minute interval energy data*		*30-minute interval energy data* means a measurement (including an *estimated* or *substituted* measurement) of electricity production and/or consumption at a *metering point* that is accumulated for each *30-minute metering interval* or, if applicable under clause 3.16(3), each sub-multiple of a *30-minute metering interval.*	New Definition added	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
1.4.1 **Definitions** *30-minute interval meter*		*30-minute interval meter* means a *meter* that measures *30-minute interval energy data* and records it in a *data logger*, and excludes a *five-minute interval meter* or a *meter* with *30-minute interval energy data* storage capability that is deemed to be an *accumulation meter* under clause 3.2(2).	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *30-minute metering interval*		*30-minute metering 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.	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *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 the production or consumption of *electricity* at a *metering point*, which is accumulated for a period longer than a *trading* interval.	is to be expressed as a measure of energy over time, and means a measurement (including an *estimated* or *substituted measurement*) of the production or consumption of *electricity* at a *metering point*, which is accumulated for a period longer than a *metering* interval.	trading interval replaced with metering interval	As per the amended Metering Code
1.4.1 **Definitions** *AEMO*		*AEMO* Australian Energy Market Operator	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *contestable customer*		*contestable customer* has the same meaning in this Metrology Procedure as the meaning given to it in the Code.	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *demand*	is the power requirement in a period expressed in Kw.	is the average power over metering interval requirement in a period expressed in Kw.	average added, over metering interval added	Technical update to align with the Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
1.4.1 **Definitions** *five-minute interval energy data*		*five-minute interval energy data* means a measurement (including an *estimated* or *substituted* measurement) of *electricity* production and/or consumption at a *metering point* that is accumulated for each *five-minute metering interval* or, if applicable under clause 3.16(3) of the *Code*, each sub-multiple of a *five-minute metering interval.*	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *five-minute interval meter*		*five-minute interval meter* means a *meter* that measures *five-minute interval energy data* and records it in a *data logger*, and excludes a meter with *five-minute interval energy data* storage capability that is deemed to be an *accumulation meter* under clause 3.2(2) of the *Code*.	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *five-minute metering interval*		*five-minute metering interval* means one of the twelve five-minute periods within an hour with the first five-minute period commencing on the start of the hour (WST) and, where identified by a time, means the five-minute period ending at that time.	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *five-minute settlement commencement*		*five-minute settlement commencement* means a date and time published by the Minister in the Government Gazette.	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *interval energy data*	is to be expressed in *energy units* or multiples thereof, and means a measurement (including an *estimated* or *substituted* measurement) of the production or consumption of *electricity* production or consumption at a *metering point* which is accumulated for each *trading interval*, or such sub-interval as has been previously agreed between *Western Power* and a relevant *code participant*.	means *30-minute interval energy data* or, for a *5MS meter* on and from *five-minute settlement commencement, five-minute interval energy data.*	Definition for interval energy data in 2015 version completely revised	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
1.4.1 **Definitions** *interval meter*	means a *meter* that measures *interval energy data* and records it in a *data logger.*	means a 30-minute interval meter or a five-minute meter interval meter	Definition for interval meter in 2015 version completely revised	As per the amended Metering Code
1.4.1 **Definitions** *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.	means an *energy* measuring component of a *meter* which converts *electricity* into either or both of: a) an electronic signal; and b) a mechanically or electronically recorded electrical measurement.	or electronically added	Technical update to align with the Metering Code
1.4.1 **Definitions** *meter*	a device which measures and records the production or consumption of electrical *energy* or ***electricity*** production and or consumption.	a device which measures and records *electricity* production and consumption	Definition for meter in 2015 version revised	As per the amended Metering Code
1.4.1 **Definitions** *metering interval*		*metering interval* means a *30-minute metering interval* or *five-minute metering interval* (as applicable).	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *metering point*	a) for Types 1-6, the point at which electricity is measured by a *revenue meter* b) for a Type 7 *meter*, the *connection point.*	means— a) for a *connection point* other than an *unmetered connection point*—a point at which a *revenue meter* measures electricity production and consumption for the *connection point*; and b) for an *unmetered connection point*—the *connection point.*	Definition for metering point in 2015 version revised	As per the amended Metering Code
1.4.1 **Definitions** *non-contestable customer*		*non-contestable customer* has the same meaning in this Metrology Procedure as the meaning given to it in the Code.	New Definition added	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
1.4.1 **Definitions** *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.		Definition for trading interval in 2021 version removed	As per the amended Metering Code
1.4.1 **Definitions** *Type*		*Type* in relation to a *metering installation,* has the meaning given to it in the *Code.*	New Definition added	As per the amended Metering Code
1.4.1 **Definitions** *Type 7*		*UMS / Un-Metered Supply* has the same meaning in this Metrology Procedure as the meaning *unmetered connection point*	New Definition added	Consistent with Appendix 1, Table 3 and the existing Type 7 substitution process
1.4.1 **Definitions** *UMS /* Unmetered Supply		*UMS / Un-Metered Supply* has the same meaning in this Metrology Procedure as the meaning *unmetered connection point*	New Definition added	Clarify existing usage in the Metrology procedure
1.4.1 **Definitions** unmetered connection point		*unmetered connection point* has the same meaning in this Metrology Procedure as the meaning given to it in the Code: means a (unmetered supply) *connection point* 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 or a similar nature.	New Definition added	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
2.2.4	*Western Power* will make a determination of the *metering installation* type based on the historic or anticipated annual consumption and peak *load* at the *connection point*, as agreed with the *retailer*. If the *retailer* and *Western Power* cannot agree on the type of installation, then subject to clauses 3.9(3A) and 5.1 of the *Code*, *Western Power* may make the determination on the matter.	*Western Power* will make a determination of the *metering installation* type based on the historic or anticipated annual consumption and/or production and peak load and/or generation at the *metering point*, as agreed with the *retailer*. If the *retailer* and *Western Power* cannot agree on the type of installation, then subject to clauses 3.9(3A) and 5.1 of the *Code, Western Power* may make the determination on the matter.	and/or production added, and/or generation added, connection point replaced with metering point	Technical update to align with the Metering Code
2.2.5	An increase in annual or peak consumption that, in the opinion of *Western Power*, places the *connection point* into a higher type will result in a *meter* upgrade. Where annual consumption has decreased with time no *meter* change is necessary.	An increase in annual or peak consumption and/or production that, in the opinion of *Western Power*, places the *metering point* into a higher type will result in a *meter* upgrade. Where annual consumption and/or production has decreased with time no *meter* change is necessary.	and/or production added, connection point replaced with metering point	Technical update to align with the Metering Code
2.2.6	Where a Type 6 *meter* is capable of recording both *interval energy data* and *accumulated energy data*, it will be treated as an accumulation meter, unless otherwise agreed between *Western Power* and the *retailer*.	2.2.6 Where a Type 4 *meter* or a Type 6 *meter*, in a *metering installation* associated with a *non-contestable customer*, is capable of recording both *interval energy data* and *accumulated energy data*, it will be treated as an accumulation meter, unless otherwise agreed between *Western Power* and the *retailer*.	Type 4 meter or a added, in a metering installation associated with a non-contestable customer added	Preserves the accumulation deeming option for non-contestable customers for the purposes of alignment with the WEM rules.

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
2.2.7	Where a *metering installation* includes a Type 5 *meter* that is read as an *accumulation meter*, the *meter* will not be replaced by or, reconfigured to, an interval-read *meter* without the agreement of the *retailer,* except: (a) where another *retailer* has requested an interval survey, at which point it will be necessary to permanently convert the *meter* to an interval-read *meter*; or (b) where the *connection point* is due to *transfer* to another *retailer*, under which circumstances it may be necessary to replace or reprogram the *meter* to interval-read a few days prior to the formal *transfer*	2.2.7 Where a *metering installation* includes a Type 5 *meter* that is read as an *accumulation meter*, the *meter* will not be replaced by or, reconfigured to, an interval-read *meter* without the agreement of the *retailer,* except: (a) where another *retailer* has requested an interval survey, at which point it will be necessary to permanently convert the *meter* to an interval-read *meter*; or (b) where the *connection point* is due to *transfer* to another *retailer*, under which circumstances it may be necessary to replace or reprogram the *meter* to interval-read a few days prior to the formal *transfer;* or (c) as reasonably required to comply with the *Metering Code.*	or added, (c) as reasonably required to comply with the Metering Code. added	Align with the Metering Code amendments and support 5-minute metering and the objective of moving all contestable customers to interval meters
3.1.6	*Western Power* will ensure that for *Type 7 metering installations, energy data* is calculated, *validated* and *substituted* in accordance with the *Code*.	*Western Power* will ensure that for *unmetered Type 7 connection points, energy data is calculated, validated and substituted* in accordance with the *Code*.	unmetered added, metering installations replaced with connection points	As per the amended Metering Code
3.1.8	Where *energy data* for Type 1-5 *metering installations* is gathered at a frequency greater than a *trading interval* it will be aggregated into *trading intervals* as per clause 3.16(3A) of the *Code*	Where *energy data* for Type 1-5 *metering installations* is gathered at a frequency greater than a *metering interval* it will be aggregated into *metering intervals* as per clause 3.16(3A) of the *Code*	trading interval replaced with metering interval	As per the amended Metering Code
3.2.2	Where *Western Power* chooses to gather and issue *energy data* more frequently than the published *meter* reading schedule, the *retailer* will only be charged for reading in accordance with the published *meter* reading schedule, or in accordance with the applicable *service level agreement.*	Where *Western Power* chooses to gather and issue *energy data* more frequently than the published *meter* reading schedule, the *retailer* will only be charged for reading in accordance with the published *meter* reading schedule, the applicable *service level agreement.*	or in accordance with removed	Text correction

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
3.3.4	After conducting a *meter* reading and obtaining *energy data* for a *metering point, Western Power* will provide access to that *energy data* to the *user* for the *metering point* and the *IMO* in accordance with clauses 5.6 and 5.7 of the *Code* and in accordance with the *Communication Rules*.	After conducting a *meter* reading and obtaining *energy data* for a *metering point, Western Power* will provide access to that *energy data* to the *user* for the *metering point* and the AEMO in accordance with clauses 5.6 and 5.7 of the *Code* and in accordance with the *Communication Rules*.	IMO replaced with AEMO	As per the amended Metering Code
3.3.7	*Energy data* (actual, *substituted* or *estimated*) is required by *Western Power* by data stream for all *trading intervals* (that is, 48 intervals per 24 hour period) within the timeframe outlined in the *Code* or the applicable *service level agreement*.	*Energy data* (actual, *substituted* or *estimated*) is required by *Western Power* by data stream for all *metering intervals* (that is, 48 or 288 intervals per 24 hour period, as applicable) within the timeframe outlined in the *Code* or the applicable *service level agreement*.	trading interval replaced with metering interval, or 288 added, as applicable added	As per the amended Metering Code and 5MS requirement
3.5.5	*Western Power* calculates *energy data* for *Type 7 metering installations* by way of substitution in accordance with Appendix 3, clause A3.7(5) of the *Code* – substitution method 74	*Western Power* calculates *energy data* for *unmetered Type 7 connection points* by way of substitution in accordance with Appendix 3, clause A3.7(5) of the *Code* – substitution method 74.	unmetered added metering installations replaced with connection points	As per the amended Metering Code
3.5.6	Nothing in this Metrology Procedure requires Western Power to modify or change Type 7 meter consumption calculations agreed between Western Power and Synergy on 16 May 2013. Type 7 meter consumption calculations will continue to be made by the methods and systems in place, and agreed, on that date. The agreed method is substitution method 74 under the Metering Code and this Metrology Procedure. The metering installation and metering database associated with each Type 7 meter are the systems in use as at 16 May 2013, or unless as otherwise agreed between Synergy with customers with Type 7 metering installations and Western Power.	Nothing in this Metrology Procedure requires Western Power to modify or change unmetered Type 7 connection point consumption calculations agreed between Western Power and Synergy on 16 May 2013. Unmetered Type 7 connection point consumption calculations will continue to be made by the methods and systems in place, and agreed, on that date. The agreed method is substitution method 74 under the Code and this Metrology Procedure. The metering installation and metering database associated with each unmetered Type 7 connection point are the systems in use as at 16 May 2013, or unless as otherwise agreed between Synergy with customers with unmetered Type 7 connection points and Western Power.	unmetered added, connection point added, meter removed, Metering Code amended to Code, metering installations replaced with connection points	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
3.5.7	Street lighting and all *UMS* installations are classified as *Type 7 connection points* and the *energy data* is estimated using the following calculations: Western Power will ensure that for Type 7 metering installations, energy data will be calculated on a monthly or bi-monthly basis in accordance with the Communication Rules Build Pack and specifically, the Streetlights and UMS Data CSV File Specification documents included within the Build Pack. The communication rules incorporate and largely comprise the suite of technical documents known as the Build Pack, which is published on the Western Power website at: http://www.westernpower.com.au/retailersgenerators/Build_Pack.html.	Street lighting and all *UMS* installations are classified as unmetered *Type 7 connection points* and the *energy data* is estimated using the following calculations: Western Power will ensure that for unmetered Type 7 connection points, energy data will be calculated on a monthly or bi-monthly basis in accordance with the Communication Rules Build Pack and specifically, the Streetlights and UMS Data CSV File Specification documents included within the Build Pack. The communication rules incorporate and largely comprise the suite of technical documents known as the Build Pack, which is published on the Western Power website at: https://westernpower.com.au	unmetered added, metering installations replaced with connection points, Western Power website updated	As per the amended Metering Code
4.2.3(c)	ensure that aggregation of quarter-hourly *data* to half-hourly *data* has been performed in alignment with this *Metrology Procedure*, and/or	ensure that aggregation of interval *data* has been performed in alignment with this *Metrology Procedure*, and/or	quarter-hourly data to half-hourly replaced with interval	Technical update to align with the Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
4.2.13	Where a *code participant* requests a *metering point* to be tested, the *meter* will be tested at Base *load current* (Full *load* test) and 10% Base *load current* (Light *load* test). *Western Power* will use the result of the Full *load* test and the Light *load* test to calculate the Weighted Average Error for the *meter*. The *meter* will be deemed defective if the result of applying the Weighted Average Error equation exceeds the accuracy limit of the *meter* under test. The equation used WA error (%)= ((4xFull Load)+Light Load)/5 Where; WA error is the percentage Weighted Average Error for the meter [overall meter error] at time of test, Full Load is the percentage full load error of meter at time of test, Light Load is the percentage light load error of meter at time of test.	Where a *code participant* requests a *metering point* to be tested, the *meter* will be tested in accordance with AS 1284.13 (as per the Code, *Appendix 1, Table 3A, Column 4, Minimum acceptable class or standard of components*). If any other metering components are used (commonly current and voltage transformers) they will be tested to the relevant AS. The meter and/or associated components will be deemed defective if they do not meet the minimum acceptable class or standard listed in Table 3A. Western Power will use the result of the full *load* tests to calculate the Overall Error for the *metering installation* (as per the *Code, Appendix 1, Table 3A, Column 3, Maximum allowable overall error (±%) at full load*). The metering installation will be deemed defective if the vector sum of the full load errors of each component exceeds the maximum allowable overall error at full *load* for the *metering installation* (as per the *Metering Code, Appendix 1, Table 3A, Column 3, Maximum allowable overall error (±%) at full load*).	Section 4.2.13 and equation in 2015 version completely revised	Technical update to align with the Metering Code
5.1	*Electricity* flowing through the *connection point* is to be greater than 1,000 GWh per annum.	Annual throughput at the *metering point* is to be greater than 1,000 GWh.	Electricity flowing through replaced with annual throughput, connection point replaced with metering point, per annum deleted	Technical update to align with the Metering Code, As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.2	*Electricity* flowing through the *connection point* is to be greater than 100 GWh but less than 1,000 GWh per annum.	Annual throughput at *the metering point* is to be greater than 100 GWh but less than 1,000 GWh.	Electricity flowing through replaced with annual throughput, connection point replaced with metering point, per annum deleted	Technical update to align with the Metering Code, As per the amended Metering Code
5.3	*Electricity* flowing through the *connection point* is to be greater than 0.75 GWh but less than 100 MWh per annum.	Annual throughput at the *metering point* is to be greater than 0.75 GWh but less than 100 MWh.	Electricity flowing through replaced with annual throughput, connection point replaced with metering point, per annum deleted	Technical update to align with the Metering Code, As per the amended Metering Code
5.4	*Electricity* flowing through the *connection point* is to be greater than 300 MWh but less than 750 MWh.	Before 1 January 2022 annual throughput at the *metering point* is to be greater than 300 MWh but less than 750MWh. On or after 1 January 2022 – annual throughout at the metering point is to be less than 750 MWh.	Before 1 January 2022 added, Electricity flowing through replaced with annual throughput, connection point replaced with metering point On or after 1 January 2022 – annual throughout at the metering point is to be less than 750 MWh added	Technical update to align with the Metering Code, As per the amended Metering Code
5.5	*Electricity* flowing through the *connection point* is to be greater than 50MWh but less than 300 MWh per annum.	~~A~~nnual throughput at the *metering point* is to be greater than 50MWh but less than 300 MWh. Type 5 *meters* will only be installed before 1 January 2022.	Electricity flowing through replaced with annual throughput, connection point replaced with metering point Type 5 meters will only be installed before 1 January 2022 added	Technical update to align with the Metering Code As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.6	*Electricity flowing through* the *connection* point is to be less than 50 MWh per annum.	Annual throughput at *metering point* is to be less than 50 MWh. Type 6 meters will only be installed before 1 January 2022.	Electricity flowing through replaced with annual throughput, Type 6 meters will only be installed before 1 January 2022 added	Technical update to align with the Metering Code As per the amended Metering Code
5.16	High *voltage connection points* with an annual consumption of less than 750 MWh per annum must meet the accuracy requirements for a Type 3 *metering installation*	High *voltage metering points* with an annual throughput of less than 750 MWh must meet the accuracy requirements for a Type 3 *metering installation*	connection points replaced with metering points, annual consumption replaced with annual throughput	As per the amended Metering Code
5.25	New *current transformers* must meet the relevant requirements of AS60044.1 and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act.	New *current transformers* must meet the relevant requirements of AS60044.1, AS 60044.3 (Combined transformers), or AS 61869.1 (General Requirements) and AS 61869.2 (CT) and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the *National Measurement Act.* *Relevant type tests and measurement error test certificates issued by a National Association of Testing Authorities (NATA) accredited laboratory or a body recognised by NATA under ILAC mutual recognition scheme must be provided to Western Power.*	AS 60044.3 (Combined transformers), or AS 61869.1 (General Requirements) and AS 61869.2 (CT) added New paragraph added: Relevant type tests and measurement error test certificates issued by a National Association of Testing Authorities (NATA) accredited laboratory or a body recognised by NATA under ILAC mutual recognition scheme must be provided to Western Power.	Technical update to align with current Australian Standards

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.30	New *voltage transformers* must meet the relevant requirements of AS60044.2 and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurements Act.	New *voltage transformers* must meet the relevant requirements of AS60044.2 AS 60044.3 (combined transformers), AS 60044.5 (Capacitor VT) or AS 61869.1 (General Requirements) and AS 61869.3 (Inductive VT) and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurements Act.	AS 60044.3 (combined transformers), AS 60044.5 (Capacitor VT) or AS 61869.1 (General Requirements) and AS 61869.3 (Inductive VT) added	Technical update to align with current Australian Standards
5.31	*Voltage transformers* in service at the *Code* commencement date that do not comply with the accuracy requirements are acceptable providing the overall accuracy of the installation meets *Code* requirements for the applicable type *metering installation.*	*Voltage transformers* in service at the *Code* commencement date that do not comply with the accuracy requirements are acceptable providing the overall accuracy of the installation meets *Code* requirements for the applicable type *metering installation.* *Relevant type tests and measurement error test certificates issued by a National Association of Testing Authorities (NATA) accredited laboratory or a body recognised by NATA under International Laboratory Accreditation Cooperation (ILAC) mutual recognition scheme must be provided to Western Power.*	New paragraph added: Relevant type tests and measurement error test certificates issued by a National Association of Testing Authorities (NATA) accredited laboratory or a body recognised by NATA under International Laboratory Accreditation Cooperation (ILAC) mutual recognition scheme must be provided to Western Power.	Technical update to align with current Australian Standards and to comply with best industry practice to deliver 5MS requirement
5.34	2.5 mm² cable is required for *current transformer* secondary wiring.	4 mm² cable is required for current transformer secondary wiring.	2.5mm² amended to 4mm²	Technical update
5.35	1.5 mm² cable is required for *voltage transformer* secondary wiring.	4 mm² cable is required for *voltage transformer* secondary wiring.	1.5mm² amended to 4mm²	Technical update
5.37	Metering *data* is required for all *trading intervals* within the time agreed with the relevant *retailers* at a level of availability of at least 99% per annum for *instrument transformers.*	Metering *data* is required for all *metering intervals* within the time agreed with the relevant *retailers* at a level of availability of at least 99% per annum for *instrument transformers.*	trading intervals replaced with metering intervals	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.39	*Meters* must meet the relevant requirements of AS1284 and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the *National Measurement Act*.	New *meters* must meet the requirements of AS 62052.11, AS 62053.21, AS 62053.22 and AS 62053.31 and must also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the *National Measurement Act*. Relevant type tests certificates issued by a National Association of Testing Authorities (NATA) accredited laboratory or a body recognised by NATA under ILAC mutual recognition scheme must be provided to *Western Power*.	New added, AS1284 removed and AS 62052.11, AS 62053.21, AS 62053.22 and AS 62053.31 added, Relevant type tests certificates issued by a National Association of Testing Authorities (NATA) accredited laboratory or a body recognised by NATA under ILAC mutual recognition scheme must be provided to Western Power added	Technical update to align with current Australian Standards and to comply with best industry practice to deliver 5MS requirement
5.58	Any programmable settings available within a *metering installation, data logger* or any peripheral device, which may affect the resolution of displayed or stored *data*, must meet the relevant requirements of AS1284 and must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the *National Measurement Act*.	Any programmable settings available within a *metering installation, data logger* or any peripheral device, which may affect the resolution of displayed or stored *data*, must meet the requirements of the applicable AS and must comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the *National Measurement Act*.	relevant removed, the applicable added, 1284 removed	Technical update and clarification
5.62	Data relating to the amount of *active energy* and *reactive energy* passing through a *connection point* must be collated in *trading intervals* or sub-multiples of a *trading interval* within the *metering installation*.	Data relating to the amount of *active energy* and *reactive energy* passing through a *connection point* must be collated in *metering intervals* or sub-multiples of a *metering interval* within the *metering installation*.	trading intervals replaced with metering intervals	As per the amended Metering Code
5.67	*Energy data* is required for all *trading intervals* at a level of availability of at least 99% per annum.	*Energy data* is required for all *metering intervals* at a level of availability of at least 99% per annum.	trading intervals replaced with metering intervals	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.71 – 5.120	5.73 – 5.120	5.71 – 5.118	Numbering corrected	Numbers 5.71 and 5.72 had been skipped in 2015 version
5.76	5.76 The *metering installation* must be capable of local *electronic* access.	5.74 The *metering installation* must be capable of local or remote *electronic* access.	Numbering corrected, or remote added	Technical update
5.79	5.79 *Energy data* is required for all *trading intervals* at a level of availability of at least 95% per annum.	5.77 *Energy data* is required for all *metering intervals* at a level of availability of at least 95% per annum.	Numbering corrected, trading intervals replaced with metering intervals	As per the amended Metering Code
5.81	5.81 All Western Power meters must comply with the National Measurement Act and in addition: • All new purchased *current transformers* must comply with AS60044.1. • All new purchased *voltage transformers* must comply with AS60044.2. • All new purchased *meters* must comply with AS1284. • All new purchased *meters* must comply with the relevant specifications of the National Measurements Institute's M6.	5.79 All Western Power meters must comply with the National Measurement Act and in addition: • All new purchased *current transformers* must comply with applicable AS Standards, including as outlined in 5.25 above. • All new purchased *voltage transformers* must comply with applicable AS Standards, including as outlined in 5.30 above. • All new purchased *meters* must comply with applicable AS, including as outlined Standards in 5.39 above. • All new purchased *meters* must comply with the relevant specifications of the National Measurements Institute's M6 and NITP 14 regulations. Copies of certificates must be provided to Western Power.	Numbering corrected, AS60044.1 replaced with AS Standards, including as outlined in 5.25 above AS60044.2 replaced with applicable AS Standards, including as outlined in 5.30 above AS1284 replaced with applicable AS, including as outlined Standards in 5.39 above and NITP 14 regulations. Copies of certificates must be provided to Western Power added	Technical update to align with current Australian Standards and to comply with best industry practice to deliver 5MS requirement

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.85	5.85 The maximum periods between sample testing are to be: • CT & VT - 10 years • Burden tests - When changes are made • Meters - 2 years Refer to Appendix 2	5.83 The maximum periods between testing are to be: • CT & VT - 10 years • Burden tests - When changes are made or testing of other equipment occurs • Meters - 5 years	Numbering corrected sample removed Burden tests - or testing of other equipment added 2 years amended to 5 years and Refer to Appendix 2 removed	Technical update To comply with best industry practice to deliver 5MS requirement
5.89	5.89 The maximum periods between sample testing are to be: • CT & VT - 10 years • Burden tests - When changes are made • Meters - 4 years	5.87 The maximum periods between testing are to be: • CT & VT - 10 years • Burden tests - When changes are made or testing of other equipment occurs • Meters - 5 years	Numbering corrected sample removed Burden tests - or testing of other equipment added 2 years amended to 5 years	Technical update To comply with best industry practice to deliver 5MS requirement
5.93	5.93 The maximum periods between sample testing are to be: • CT & VT - 10 years • Burden tests - When changes are made • Meters - 5 years	5.91 The maximum periods between testing are to be: • CT & VT - 10 years • Burden tests - When changes are made or testing of other equipment occurs • Meters - are to be tested on a sample basis as per AS 1284.13 and Appendix 2	Numbering corrected sample removed Burden tests - or testing of other equipment added 5 years removed and are to be tested on a sample basis as per AS 1284.13 and Appendix 2 added	Technical update To comply with best industry practice to deliver 5MS requirement

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.97	5.97 The maximum periods between sample tests are to be: • CT & VT - 10 years • Burden tests - When changes are made • Meters - 5 years • Whole current (direct connected) General Purpose meter - 7 years	5.95 The maximum periods between tests are to be: • CT & VT - 10 years • Burden tests - When changes are made or testing of other equipment occurs • Meters - are to be tested on a sample basis as per AS 1284.13 and Appendix 2	Numbering corrected sample removed Burden tests - or testing of other equipment added 5 years removed and are to be tested on a sample basis as per AS 1284.13 and Appendix 2 added Whole current (direct connected) General Purpose meter - 7 years removed	Technical update To comply with best industry practice to deliver 5MS requirement
5.101	5.101 The uncertainty associated with testing of the *CT* connected *meters* in the *metering installation* is carried out as follows: • Maximum allowable level of testing uncertainty in the laboratory 0.3/cosϕ% • Maximum allowable level of testing uncertainty in the field 0.3/cosϕ% • Maximum period between tests – 5 years	5.99 The uncertainty associated with testing of the *CT* connected *meters* in the *metering installation* is carried out as follows: • Maximum allowable level of testing uncertainty in the laboratory 0.3/cosϕ% • Maximum allowable level of testing uncertainty in the field 0.3/cosϕ%. • CT Meters are to be tested on a sample basis as per AS 1284.13 and Appendix 2	Numbering corrected Maximum period between tests - 5 years replaced with CT Meters are to be tested on a sample basis as per AS 1284.13 and Appendix 2	Technical update To comply with best industry practice to deliver 5MS requirement

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.103	5.103 The uncertainty associated with testing of the *whole current* connected *meters* in the *metering installation* is carried out as follows: • Maximum allowable level of testing uncertainty in the laboratory 0.3/cosϕ% • Maximum allowable level of testing uncertainty in the field 0.3/cosϕ%. • Maximum period between tests – 7 year	5.101 The uncertainty associated with testing of the *whole current* connected *meters* in the *metering installation* is carried out as follows: • Maximum allowable level of testing uncertainty in the laboratory 0.3/cosϕ% • Maximum allowable level of testing uncertainty in the field 0.3/cosϕ%. • WC Meters are to be tested on a sample basis as per AS 1284.13 and Appendix 2	Numbering corrected Maximum period between tests – 7 year replaced with WC Meters are to be tested on a sample basis as per AS 1284.13 and Appendix 2	Technical update To comply with best industry practice to deliver 5MS requirement
5.104	5.104 The accuracy of the *measurement element* is to be in accordance with class 1.5 for *General Purpose* watt hour *meters* as per AS1284 or in accordance with class 1.0 as per AS1284 or IEC1036 standards.	5.102 The accuracy of the *measurement element* is to be in accordance with class 1.5 for *General Purpose* watt hour *meters* as per AS1284 or in accordance with class 1.0 as per applicable AS.	Numbering corrected AS1284 or IEC1036 standards replaced with applicable AS.	Technical correction
5.107	5.107 • The maximum periods between sample tests are to be: • Whole current (direct connected) *meter* is to be tested in accordance with *AS1284.13* and *Western Power's* Meter Compliance Testing and Sampling Plan.	5.05 WC Meters are to be tested on a sample basis as per AS 1284.13 and Appendix 2	Numbering corrected Section 5.107 in 2015 version completely revised	Technical update

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.108	5.108 Testing of the components of the *metering installation* will be conducted in accordance with AS1284.13 and *Western Power's* Meter Compliance Testing and Sampling Plan.	5.106 Testing of the components of the *metering installation* will be conducted when the *meters* are tested in accordance with this Metrology Procedure.	Numbering corrected in accordance with AS1284.13 and *Western Power's* Meter Compliance Testing and Sampling Plan replaced with when the *meters* are tested in accordance with this Metrology Procedure.	Technical update
5.109	5.109 Where practicable, *current transformer* and *voltage transformer* tests are based on good electricity industry practice and relevant applicable Australian Standards.	5.107 Where practicable, *current transformer* and *voltage transformer* tests are based on good electricity industry practice and applicable Australian Standards.	Numbering corrected relevant removed	Text correction
5.112	5.112 All reference/calibrated equipment shall be tested to ensure full traceability to Australian national measurement standards through verifying authorities or directly referenced to the National Measurement Laboratory.	5.110 All reference/calibrated equipment shall be tested to ensure full traceability to Australian national measurement standards through verifying authorities or directly referenced to the National Measurement Laboratory or a body recognised by NATA under the ILAC Mutual Recognition Agreement (MRA) scheme.	Numbering corrected or a body recognised by NATA under the ILAC Mutual Recognition Agreement (MRA) scheme added	Technical update to comply with best industry practice
5.113	5.113 The calculations of accuracy based on test results, are to include all reference standard errors.	5.111 The calculations of accuracy based on test results, are to include all reference standard errors as required.	Numbering corrected as required added	Text correction

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
5.115	5.115 The testing and inspection requirements must be in accordance with AS 1284.13 and *Western Power's* Meter Compliance Testing and Sampling Plan	5.113 The maximum inspection period of the Metering Installation (Site Audits) requirements must be as below. • Type 1 and 2 HV —2.5 years • Type 3 - 2.5 years (High Voltage), 10 years (Low Voltage CT), WC (When meters are sample tested) • Type 4 - 10 years (Low Voltage CT), WC (When meters are sample tested) • Type 5 - 10 years (Low Voltage CT), WC (When meters are sample tested) • Type 6 - WC (When meters are sample tested)	Numbering corrected 5.115 in 2015 version completely revised	Technical update To comply with best industry practice to deliver 5MS requirement
5.116	5.116 A typical inspection must include: check the seals; compare the pulse counts; compare the direct readings of *meters*, verify *meter* parameters and physical connections, verify *current transformer* ratios by comparison.	5.114 A typical inspection must include: check the seals; compare the pulse counts; compare the direct readings of *meters*, verify *meter* parameters and physical connections, verify metering measurement *transformer* ratios by comparison.	Numbering corrected, current replaced with metering measurement	Text correction
5.119	5.119 If a test or audit of the *metering installation* demonstrates an error of measurement of less than those detailed in the *meter* management plan, no substitution of readings is required unless in *Western Power*'s opinion a particular party would be significantly affected if no substitution was made.	5.117 If a test or audit of the *metering installation* demonstrates an error of measurement of less than those detailed in this table, no substitution of readings is required unless in *Western Power*'s opinion a particular party would be significantly affected if no substitution was made.	Numbering corrected, the meter management plan replaced with this table	Text correction
7.1	Requirement to Accumulate Energy Data to Trading Intervals	Requirement to Accumulate Energy Data to Metering Intervals	Trading replaced with Metering	As per the amended Metering Code
7.1.1	Where *energy data* is recorded in fifteen-minute intervals this must be accumulated to half-hourly values to coincide with the *trading interval* in accordance with section 7.3.	Where *energy data* is recorded in fifteen-minute intervals this must be accumulated to half-hourly values to coincide with the *metering interval* in accordance with section 7.3.	trading interval replaced with metering interval	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
7.2.1(d)	71, 72, 73, 74 for *Type 7 metering installations*	71, 72, 73, 74 for *unmetered Type 7 connection points.*	unmetered added, metering installations replaced with connection points	As per the amended Metering Code
7.3	Accumulation of data to trading intervals	Accumulation of data to metering intervals	trading replaced with metering	As per the amended Metering Code
9	*Metering Installations* Type 7 - Validation, Substitution and Estimation	*Unmetered* Type 7 Connection Points - Validation, Substitution and Estimation	Metering Installations replaced with Unmetered, Connection Points added	As per the amended Metering Code
9.1.1	The substitution and estimation types detailed in clauses A3.6 and A3.7 of Appendix 3 of the *Code* are to be undertaken by *Western Power* for the calculation, substitution and delivery of metering *data* from a *metering installation* Type 7.	The substitution and estimation types detailed in clauses A3.6 and A3.7 of Appendix 3 of the *Code* are to be undertaken by *Western Power* for the calculation, substitution and delivery of metering *data* from an unmetered Type 7 connection point.	metering installations replaced with unmetered, connection point added	As per the amended Metering Code
9.1.2	Nothing in this *Metrology Procedure* requires *Western Power* to modify or change Type 7 meter consumption calculations agreed between *Western Power* and Synergy on 16 May 2013. Type 7 meter consumption calculations will continue to be made by the methods and systems in place, and agreed, on that date. The agreed method is substitution method 74 under the *Metering Code* and this *Metrology Procedure*. The metering installation and metering database associated with each Type 7 meter are the systems in use as at 16 May 2013, or unless as otherwise agreed between Synergy with customers with Type 7 *metering installations* and Western Power.	Nothing in this *Metrology Procedure* requires *Western Power* to modify or change unmetered Type 7 *connection point* consumption calculations agreed between *Western Power* and Synergy on 16 May 2013. Type 7 consumption calculations will continue to be made by the methods and systems in place, and agreed, on that date. The agreed method is substitution method 74 under the *Metering Code* and this *Metrology Procedure*. The *metering installation* and *metering database* associated with each *unmetered Type 7 connection point* are the systems in use as at 16 May 2013, or unless as otherwise agreed between Synergy with *customers* with *unmetered Type 7 connection points* and *Western Power*.	unmetered added, meter replaced with connection point, meter removed unmetered added, meter replaced with connection point, metering installations replaced with connection point	As per the amended Metering Code

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
9.2.4	*Western Power* must base calculated metering *data* for *Type 7 metering installations* in accordance with the *Communication Rules* Build Pack and specifically the Streetlights and *UMS* Data CSV File Specification documents, as outlined in section 3.5.5:	*Western Power* must base calculated metering *data* for *unmetered Type 7 connection points* in accordance with the *Communication Rules* Build Pack and specifically the Streetlights and *UMS* Data CSV File Specification documents, as outlined in section 3.5.5:	unmetered added metering installations replaced with connection points	As per the amended Metering Code
9.4.1	*Western Power* must validate the calculated metering *data* on registration of all *Type 7* metered sites to verify consistency with the specifications in accordance with the *Communication Rules* Build Pack and specifically the Streetlights and *UMS* Data CSV File Specification documents.	*Western Power* must validate the calculated metering *data* on registration of all *unmetered Type 7 connection points* to verify consistency with the specifications in accordance with the *Communication Rules* Build Pack and specifically the Streetlights and *UMS* Data CSV File Specification documents.	unmetered added metered sites replaced with connection points	As per the amended Metering Code
Appendix 1 Interval Duration	Within the *Western Power network* all *interval meters* are configured to record *energy data* at either 15 minute intervals or 30 minute intervals. When recorded in 15 minute intervals these are aggregated within the metering systems to 30 minute *trading intervals*.	Within the *Western Power network interval meters* are configured to record *energy data* at either 5, 15 or 30 minute intervals. When recorded in 15 minute intervals these are aggregated within the metering systems to 30 minute *metering intervals*.	all removed amended to add in 5 minute intervals trading replaced with metering	Technical update
Appendix 1 Table 1 (Header)		*First Character*	First Character added above NMI Suffix (1)	Technical update
Appendix 1 Table 1 (Header)	Register Use	Register Use (Time Band)	(Time Band) added	Technical update
Appendix 1 Table 1 (Header)		NMI Suffix (2)	NMI Suffix (2) added below Second Character	Technical update

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
Appendix 1 Table 1 (Second Character column)	*Meter* numbers or measuring elements are to be 1-9, then A-Z	*Meter* numbers of measuring elements are to be 1-9, then A-Z	or replaced with of wording extended from just NMI Suffix (1) 0 to be applied to all NMI Suffixes	Technical update
Appendix 1 Table 1 Description of NMI Suffix (1) 4	First LNSP defined register	First controlled load register	LNSP defined replaced with controlled load	Technical update
Appendix 1 Table 1 Description of NMI Suffix (1) 5	Second LNSP defined register	Second controlled load register	LNSP defined replaced with controlled load	Technical update
Appendix 1 Table 1 Description of NMI Suffix (1) 6	Third LNSP defined register	Third controlled load register	LNSP defined replaced with controlled load	Technical update
Appendix 1 Table 1 Description of NMI Suffix (1) 7	Fourth LNSP defined register	First LNSP defined register	Fourth replaced with first	Technical update
Appendix 1 Table 1 Description of NMI Suffix (1) 8	Fifth LNSP defined register	Second LNSP defined register	Fifth replaced with second	Technical update

Clause No	2015 Version	2021 Version	Changes Made	Reason for Revision
Appendix 1 Table 1 Description of NMI Suffix (1) 9		Third LNSP defined register	New description added	Technical update
Appendix 1 Table 2 (Heading)	First Character	First Character: NMI Suffix (1)	NMI Suffix (1) added	Technical update
Appendix 1 Table 2 (Heading)		NMI Suffix (2)	NMI Suffix (2) added below Second Character	Technical update
Appendix 2 Section 8 Assessment of Results	Anti-creep functionality tests.	Anti-creep functionality tests. (only applies to electro-mechanical meters)	(only applies to electro-mechanical meters) added	Technical update
Appendix 11 Section 11 Determining Population Failure	The Complex Metering and Laboratory Team Leader will provide a report to the Metering Services Manager outlining the test results and analysis of any failed meter population.	The Metering Technical Services Team Leader will provide a report to the Meter Provision Manager outlining the test results and analysis of any failed meter population.	Complex Metering and Laboratory Team Leader replaced with Technical Service Team Leader Metering Services Manager replaced with Meter Provision	Business current position update