ERGON ENERGY NETWORK METER ASSET MANAGEMENT STRATEGY AER EXPLANATORY STATEMENT

ERGON ENERGY NETWORK

Part of Energy Queensland

EXECUTIVE SUMMARY

This Metering Asset Management Strategy (MAMS) outlines the strategy Ergon Energy Network will utilise to meet the requirements as a Metering Coordinator under the National Electricity Rules. This strategy will be applied to metering installations for which Ergon Energy Network is the nominated Local Network Service Provider (LNSP), Metering Coordinator (MC) and Metering Provider (MPB). Ergon Energy Network Limited participant IDs are as follows:

LNSP/MC = ERGONETP Ergon Energy Network Corp Ltd

MPB = ERGONMP Ergon Energy Network Metering

This MAMS provides an alternative non time based maintenance and inspection strategy for meters and low voltage current transformers as specified in S7.6.1 of the *Rules* and hence is submitted for the approval of Australian Energy Market Operator (*AEMO)* in accordance with clause S7.6.1 of the *Rules.* The alternative strategy is based on:

For meters - AS 1284.13 Electricity Metering Part 13 In service compliance testing.

For low voltage current transformers – AEMO document *"Alternative Testing and Inspection Guidelines for Metering Installations in the NEM".*

The remaining metering asset classes Ergon Energy Network is responsible for will be maintained as per the *Rules*.

Name	Position Title	Date
Endorsements		
Mitch Cocks	Metering and Customer Support Manager	
Han Chiu	Senior Engineer Metering Support	10/11/2023
Ray Pannam	Lead Engineer	29/11/2023
Travis Boyle	A/Manager Customer Metering	
Cloe Kernick	GM Customer and Market Operations	
Approval		
Michael Dart	Chief Customer Officer	
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ENQUIRIES REGARDING THIS MAMS

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VERSION CHANGES

This MAMS shall be reviewed and updated as required.

Date	Version	Details
Nov 2023	1.0	Initial issue as AER Explanatory Statement

CONTENTS

1.0PURPOSE AND SCOPE

This document describes the Metering Asset Management Strategy methodology for Ergon Energy Network's Electricity Metering Asset Classes. The purpose of this Strategy is to set out the Metering Coordinator's approach to the effective asset management of its metering portfolio for the period from 2025-2030. This document has been developed to:

- Describe the assets covered by this strategy
- Outline the alternative testing methodology to be enacted by the Metering Provider
- Describe the family groupings and sample sizes to be applied.

2.0 DEFINITIONS, ABBREVIATIONS AND ACRONYMS

AEMO	National Electricity Market management Company
COM	Card Operated Meter
CT	Current Transformer
EQL	Energy Queensland Limited
FRMP	Financial Responsible Market Participant
HV CT	High Voltage Current Transformer
Ib	Basic Current
In	Rated Current
LNSP	Local Network Service Provider
LR	Local Retailer
MAMP	Metering Asset Management Plan
MAMS	Meter Asset Management Strategy
MARS	Metering Asset Register – IT system
MC	Metering Coordinator
MDP	Meter Data Provider
MPA	Meter Provider category A
MPB	Meter Provider category B
NEM	National Electricity Market
NER	National Electricity Rules
POC	Power of Choice
PEACE	Customer Information System
Smart Meter	A Smart Meter is deemed to be an electronic meter, which meets a Minimum National Specification in terms of functionality with remote communications enabled
VT	Voltage Transformer

Ergon Energy Corporation Limited ABN 50 087 646 062
Energy Queensland Limited ABN 96 612 535 583

3.0 ASSET AND TEST STRATEGY

3.1 LV CURRENT TRANFORMERS

Ergon Energy Network as the LNSP is currently responsible for LV CTs installed on Type 6 installations. Ergon Energy Network will provide maintenance and testing services for these assets with the cost for this service to be recovered through distribution network charges.

For LV CT's purchased and installed after the 1st July 2015 the market reclassification of metering services for these assets as an alternative control service (ACS), made it mandatory for the customer to pay an up-front cost for these assets, whereby making them responsible for the costs of any future asset replacement for these installations. Where Ergon Energy Network is the nominated MP until the installation churns to other market MP's, Ergon Energy Network will continue to arrange for the testing and inspection of these instrument transformers.

In the AEMC (2023) "*Final Report Review of the Regulatory Framework for Metering Services"* it was mentioned that meter family sample testing is not required once the legacy meter retirement plan is approved by the AER for NEM connected sites. Once this rule change comes into effect the number of LV CT's to be tested by Ergon Energy Network will decrease and this testing and inspection service will mostly be provided to Power of Choice (POC) exempt or non-NEM connected sites. Although it is estimated that approximately 15% of the existing current Type 6 fleet may experience some sort of difficulty transitioning to a Smart Meter and onto other market MP's by 2030, however the current assumption is that sample testing is not required on these remaining fleet, as there will be a drive from local government to assist and encourage the transition of the remaining sites. The remaining part of this document mentions the testing approach to be implemented.

3.1.1 TYPE OF TEST

Secondary injection testing will be utilised for testing all LV CTs. The accuracy limits to be used are shown below in Table 1. An enhanced site inspection is also to be performed on every LV CT site in the 5 year period. Admittance testing will not be conducted, with Ratio Check testing being used as a regulatory equivalent as per AEMO's requirements in the document "*Alternative Testing and Inspection Guidelines for Metering Installations in the NEM*".

Test Point Name	% Rated Current	Error at 25% Rated Burden	
		Ratio Error Limit (%)	Phase Displacement Error Limit (Minutes)
Ergon Energy Network MAMP	5	±1.5	±90
	20	±0.75	±45
	100	±0.5	±30
	Extended Range (Whatever it may be)	±0.5	±30

Table 1: Limits of Class 0.5 LV CT Error for Compliance

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3.1.2 PERIOD AND TEST VOLUMES PER YEAR

The number of LV CT's to be tested per year will depend on the population size that the Distribution business is accountable at the period the test sample is being created. Sample testing of the LV CT's will be performed on a 5 yearly basis as per AEMO document *"Alternative Testing and Inspection Guidelines for Metering Installations in the NEM"* . A summary of the families and related sample sizes can be found in Section 4.

3.2 LV ENERGY METERS

For type 6 metering installation including card operated meters (COM), direct injection testing is to be performed on the meter at the point of installation where possible. Meters shall be tested at the test points specified in Table 2 below. The test points are to be supplemented with other test requirements as per the requirements of AS1284.13.

The percentage error limit criteria as referenced in AS 1284.1, AS 62053.21 and Schedule 7.4.3 of the NER is shown in Table 3 below.

Meter Type	Light Load	Full Load 1	Full Load 2	Full Load 3	Creep Test	Register Test
Direct Connected 1 Phase	0.1Ib Unity PF	Ib Unity PF	-	-	✓ (Induction meters only)	✓ (for dual rate meters, both registers are tested)
Direct Connected Polyphase	0.1Ib Unity PF	Ib Unity PF	Ib 0.5 Lagging PF	-		
CT Operated	0.05In Unity PF	Ib Unity PF	In 0.5 Lagging PF	2In or Imax Whichever is lesser		

Table 2: Tests and Test Points for Meters

Ib (Basic Current) – Value of current with which the relevant performance of a direct-connected meter is fixed.
In (Rated Current) – Value of current with which the relevant performance of a CT-operated meter is fixed.

Meter Type	Required Accuracy Class	Class Error	Site Error Limit	Rules Meter Error Limit	Chosen Meter Error Limit
Direct Connected Induction Meter	General Purpose	1.5	± 2.0	± 1.5	*± 1.5
Direct Connected	General Purpose	2.0	± 2.0	± 2.0	*± 2.0
CT Connected	(0.5, 1.0 or 2.0) Meter & 0.5 CT	(0.5, 1.0 or 2.0) Meter + 0.5 CT	± 2.0	Based on Meter Class	Tested at Class

Table 3: Required Accuracy Class and Error Limit for Metering Installations

*All of the site error for a direct connected installation is within the meter.

In the AEMC (2023) "*Final Report Review of the Regulatory Framework for Metering Services"* it was mentioned that meter family sample testing is not required once the legacy meter retirement plan is approved by the AER for NEM connected sites. Once this rule change comes into effect the number of LV meters to be tested by Ergon Energy Network will decrease and this testing service will mostly be provided to Power of Choice (POC) exempt or non-NEM connected sites.

3.2.1 PERIOD AND TEST VOLUMES PER YEAR

The number of LV energy meters to be tested per year will depend on the population size that Ergon Energy Network is accountable at the period the test sample is being created. Sample testing of the LV energy meters will be performed as per AS1284. A summary of the families and related sample sizes can be found in Section 4.

3.3 OVERALL ERROR CALCULATIONS

For all High Voltage Metering installations, the overall error calculations will be performed for each metering installation based on the individual CT, VT and Meter accuracy test certificates.

For low voltage current transformer installations, Ergon Energy Network installs Class 0.5 low voltage current transformers and Class 0.5 Meters which in practise ensures the overall error meets the requirements of Chapter 7 of the National Electricity Rules. For legacy Class 1.5 and 2.0 LV CT connected meters, the Metering and Customer Support Manager will review high error sites to determine if overall error calculations are required.

4.0 FAMILY & SAMPLE STRATEGY

This section provides a summary of the family selection and subsequent sample sizes used as per AS1284.13 and the AEMO document "*Alternative Testing and Inspection Guidelines for Metering Installations in the NEM*". Table 4 below shows a breakdown of the assets included in the sampling plans, and the respective number of accuracy tests expected to be performed over the 5 year period with the assumption that family sample testing is not required once the legacy meter retirement plan is approved by the AER for NEM connected sites.

Asset Class	Estimated Population as at 2025	Assets to be Tested
Single Phase Direct Connected Meters	499,392	0
Polyphase Direct Connected Meters	33,026	0
Current Transformer Connected Meters	3,342	0
Current Transformer	7,748	0
Single Phase Direct Connected Meters in POC Exempt and Non-NEM area	17,686	808
Polyphase Direct Connected Meters in POC Exempt and Non-NEM area	1,637	222
Current Transformer Connected Meters in POC Exempt and Non-NEM area	507	75
Current Transformer in POC Exempt and Non-NEM area	1,176	130
Card Operated Meter	5,680	200
TOTAL	**570,194**	**1,435**

Table 4: Estimated Asset Population as at 1 July 2025

Asset details of family samples selected will be provided to AEMO at the start of each financial year prior to the commencement of the program of work.

All asset family data was sourced from PEACE and MARS.

4.1 LV CURRENT TRANFORMERS

A summary of the number of estimated low voltage current transformers installed for type 6 metering installations as at 1 July 2025 by current transformer type is presented in Table 5 below. Note: the table does not represent CT metering installations, but number of individual assets. The assumption applied is that no family sample testing is required once the legacy meter retirement plan is approved by the AER for NEM connected sites.

CT Type	Ratios			Total Estimated LV CT's as at 2025	Sample Size
A	150/5	300/5	600/5	22	0
B	400/5	800/5	1200/5	379	0
C	1000/5	2000/5	3000/5	1	0
S	200/5			7,513	80
T	800/5			970	50
U	2000/5			0	0
V	4000/5			0	0
W	1500/5			32	0
Other	Various			7	0
Total				**8,924**	**130**

Table 5: Estimated Current Transformers Installed at Type 6 LV Metering Installations as at 1 July 2025