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CitiPower Pty and Powercor Australia Ltd

Combined Metering Asset Management Plan

1. PURPOSE

This Asset Management Plan is developed to meet the obligations of CitiPower Pty ("CitiPower") and Powercor Australia Ltd ("Powercor") (described jointly in this document as "The Business") under the National Electricity Rules Chapter 7, NEMMCO requirements as a registered Meter Provider (MP-B), and as RP under the Victorian Electricity Customer Metering Code and National Electricity Market Metrology Procedures.

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2. BUSINESS OWNERSHIP AND OPERATIONS

2.1. Business Ownership

Cheung Kong Infrastructure Ltd (CKI) and Hong Kong Electric Holdings Ltd (HED) together own 51% of CitiPower Pty and Powercor Australia Ltd ("the Business"). Both CKI and HEH are members of the Cheung Kong group of companies and are listed on Hong Kong Stock Exchange. The remaining 49% of the Business is owned by Spark Infrastructure, an entity listed on the Australian Stock Exchange.

2.2. Joint Business Operations

CitiPower and Powercor manage and develop operations as a single business, under a single Board of Directors and single Joint Executive Management Team.

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3. METERING ASSET MANAGEMENT PLAN - OVERVIEW

3.1. Introduction

This Asset Management Plan is developed to meet the Business's obligations under the National Electricity Rules Chapter 7, NEMMCO requirements as a registered Meter Provider, and as LNSP and RP under the Victorian Electricity Customer Metering Code and National and VESI Metrology Procedures.

The Plan is in response to clauses 2.6.2 to 2.6.4 of the National Electricity Market Metrology Procedure and adopts the Australian Standard AS1284.13 "In-service Compliance Testing" and in particular the method of testing by attributes, for sample testing of Direct Connected Meters. This plan also details the

CitiPower (provider ID: CITIPWMP) and Powercor (Provider ID: POWERCMP) are registered Meter Providers (MP-B) within the NEM and are accredited to undertake work on the following metering installation types:

| Category | Components |
|----------|--|
| 2M | Class 0.5 Wh Meters and Class 1.0 varh Meters |
| 2A | 0.5 CTs, VTs, Wh Meters; Class 1.0 varh Meters, (total installation to 1.0%) |
| 3M | Class 1.0 Wh Meters, and Class 2.0 varh Meters |
| 3A | Class 0.5 CTs, VTs, Class 1.0 Wh Meters; Class 2.0 varh Meters, (installation to 1.0%) |
| 4M | Class 1.0 Wh Meters and Class 1.5 Wh Meters |
| L | Approved Communications Link Installer |
| 5 | |
| 6 | |

The Business provides tier 1 (and limited tier 2) type 2 to 4 installations, and tier 1 and tier 2 type 5, 6 & 7 installations within each of its Distribution Licence areas .

The Business does not provide meter provision services outside its Distribution licence areas.

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3.2. Summary of Installation History

The Business has a combined meter population of over 1,150,000 meters are managed within the Business's Customer Information Systems (CIS) by the use of Meter Type Codes, the bulk of which are type 6 electro-mechanical meters installed into service by the SECV or Municipal Electricity Undertakings prior to 1994.

The Business continued the deployment of electro-mechanical meters since that time other than for the continuing use of Nilsen type single phase two element electronic meters as originally deployed by the SECV since 1987.

The Business has over 210,000 installations of "two" single phase electro-mechanical meters employed in two meter/time switch installations used in Flat rate/offpeak hot water controlled load customer installations, and over 50,000 single phase two element meters employed in similar 5 Day Time of Use /Offpeak hot water controlled load customer installations.

Since 2004 the Business has also been deploying a range of electronic meters.

The Business has over 200 active Meter Type Codes, including TOU registers and Timeclock assets.

Multiple meter type codes may exist for the same Make and Model Meter, used to define differing register, dial configurations or ampere ratings.

The Business has allocated its Meter Population into 89 distinct Meter Families, 16 of which cover CT connected Meter types. The average family size is 13,000 meters, however family sizes vary from up to 102,000 meters, with the majority of family sizes being between 3,000 to 10,000 meters.

Powercor has determined each meter's procurement year based on historical meter records of property numbers, although for analysis purposes meters are grouped within families into 5 year blocks, the CitiPower records of meter age are incomplete for the former MEU areas and for this reason age profiles for the combined Meter Families will be based on the Powercor population.

The Direct Connected Meter Families are tested on a sample test method, based on the "Testing by Attributes" Method within AS1284.13. By analysis of test results on a 5 year block basis, decisions in regard to replacement, testing, and creation of sub-families can be made.

The CT Connected Meter Families (HV and LV) have each member of the population individually inspected and tested periodically, in accordance with National Electricity Rules, chapter 7 requirements.

The Business supplies Low Voltage CTs on a new and replacement basis to all market metering installations within its Distribution Areas.

The Business holds a database of all existing LV CT Metering Transformers and is undertaking periodic inspections at time of CT Meter Testing, and periodic in-situ CT testing on a 10 year basis.

The Business supplies HV Metering Transformers (CTs and VTs) for those sites where CitiPower or Powercor is assigned as Responsible Person and has been requested to provide Meter Provider Services.

Historical records on HV plant is held centrally and the Business undertakes a program of individual site inspections and HV Testing in conjunction with the CT Meter Testing program.

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3.3. Summary of Resources

The Business has centralised management of its combined Metering assets and activities into a single Metering Business Unit.

Two staff manage the regulatory and operational aspects of CitiPower and Powercor's obligations as an accredited Meter Provider, and management and issue of combined CitiPower and Powercor Metering Standards and Policy. These positions are located in the AIMRO Metering Business Unit, and consist of:

- Manager, Energy Metering Solutions
- Manager, Metering Standards

The Business has a Metering Operations Group across both Network Areas to provide a centre of excellence for complex installations, inspection, Commissioning and Compliance testing, and technical support to the wider Metering and Servicing and sub-contractor field resources.

Powercor's Field Metering works are undertaken by staff employed in Powercor's Network Services Business Unit and consist of:

1. New Connections and Faults/Adds/Alts of Direct Connected single and multiphase Metering

. 1.1 Under the Control of the Network Services Resources Group Manager

1.1.1 Three Regions across Powercor containing a total of 50 M/S Linesmen

1.1.2 Fourteen locations within Powercor in rural/remote areas where sub-contact labour works, as Local Service Agents

. (LSA's are Contract Managed by the Supply Chain Solutions Manager)

2. New Connections and Faults/Adds/Alts of LVCT and HV Metering, Meter Investigations, compliance and customer requested testing on Direct Connected, CT Connected meters, and LV CT Metering Transformers

2.1 Under the control of the Manager, Metering Operations Group

. 2.1.1 Twenty five Metering Specialists and 4 MS Apprentices

CitiPower Field Metering works are undertaken by sub-contractors and internal resources employed by Powercor's Network Services Business Unit and consisting of:

3. New Connections and Faults/Adds/Alts of Direct Connected single and multiphase Metering

3.1 Under the Control of the Network Services Resources Group Manager

3.1.1 subcontractors undertake New Connections of single, multiphase and LVCT Metering

3.2 Under the Control of the Network Services Group Faults and Network Services Manager

3.1.1 subcontractors undertake Faults Replacement of single and multiphase metering

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4. Commissioning of New Connections of LV CT, New Connections of HV Metering, and Faults/Adds/Alts of complex single/multiphase, LVCT and HV Metering, Meter Investigations, compliance and customer requested testing on Direct Connected, CT Connected meters, and LV CT Metering Transformers

- 4.1 Under the control of the Manager, Metering Operations Group
 - 4.1.1 Twenty five Metering Specialists and 4 MS Apprentices.

3.4. Organisational Structure

An Organisational Structure of the Business is provided overleaf to display the Organisation of Board, CEO and Business Units at General Manager Level.

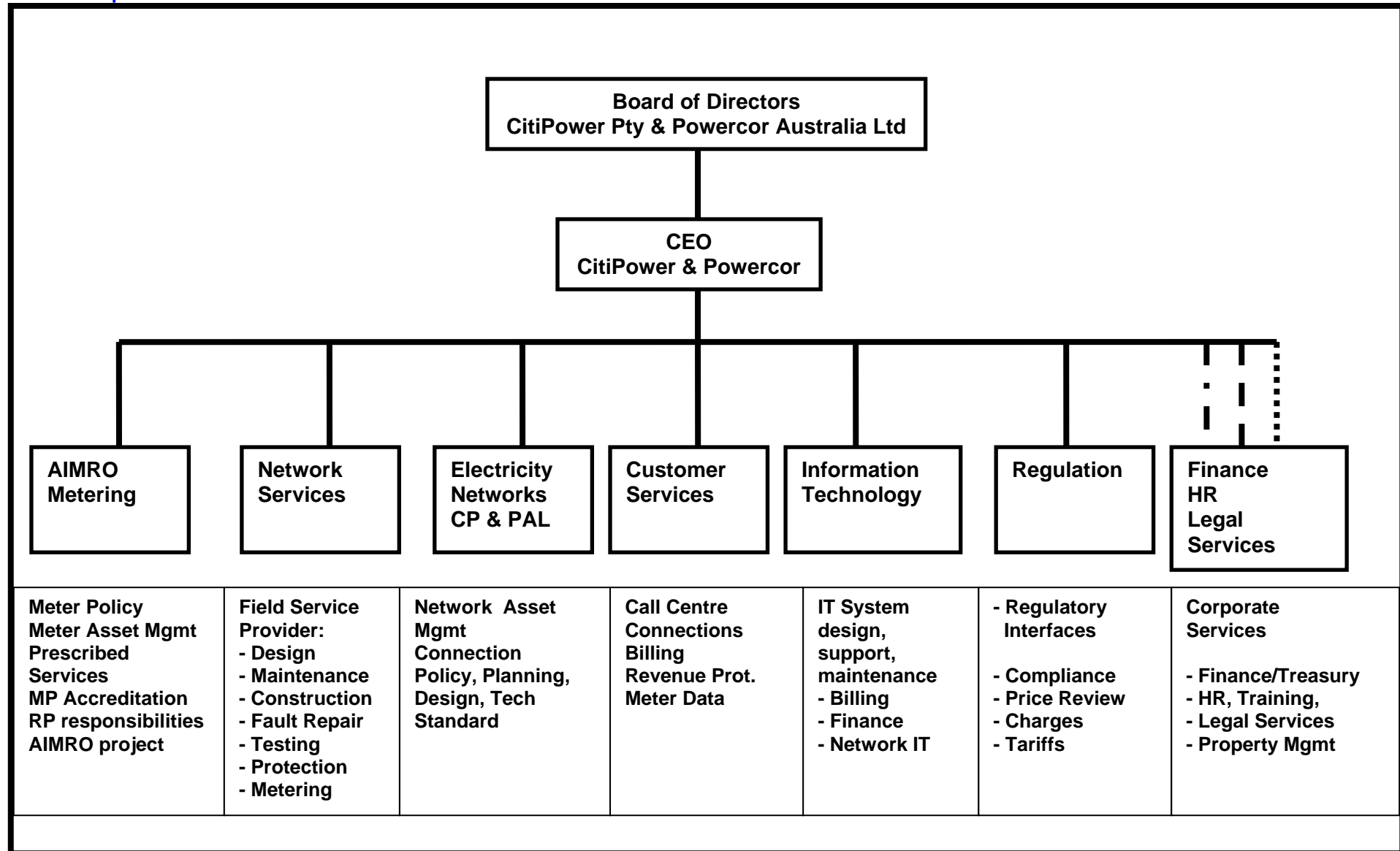
An Organisational Structure of specific Metering related functions at workgroup level is also provided overleaf.

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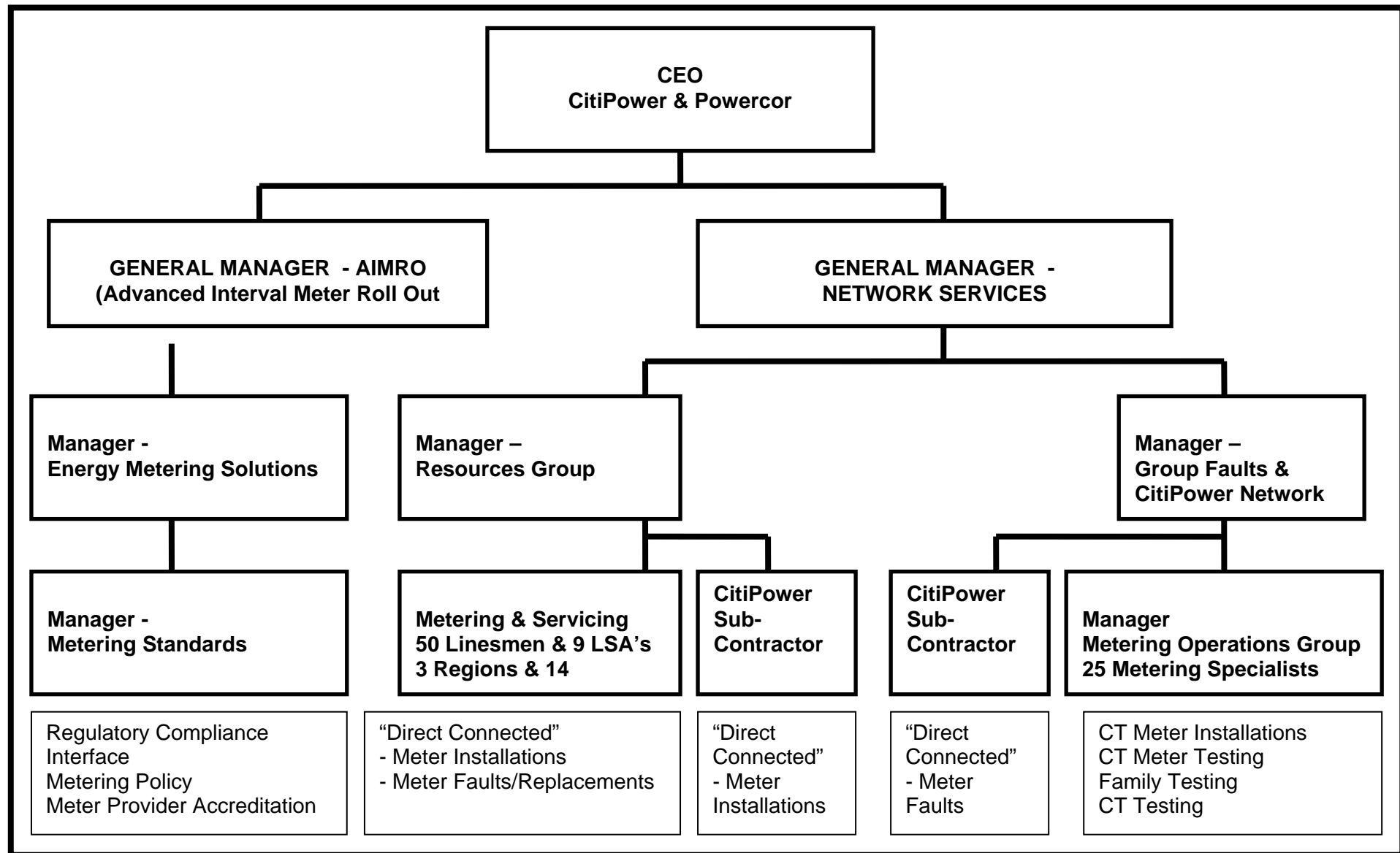


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3.5. Summary of Test Capability

The Business has all of its test equipment managed under a Quality System Certified IMTE program which ensures traceable and NATA certified test results are maintained on test equipment held and utilised by the Metering Operations Group, who use number of Meter Test Sets including:

- MTE model PTS 2.1 single Phase test sets
- MTE model PTS 2.3 Three Phase test sets
- Red Phase Model 590 C CT injection Test Sets

as well as other miscellaneous field and laboratory test equipment including SECV built 3 phase and single phase Laboratory Meter Test Benches.

With this equipment the Business is effectively able to test class 0.5 CTs in its lab or field environment, and to test up to class 0.5 meters within its laboratory or in the field, this provides for in house testing capability from Low voltage CTs and Meters in the Type 3, type 4, type 5 and type 6 areas.

The Business undertakes training of its staff to produce uncertainty calculations on its test results and conducts a “round robin” test program with the NATA Laboratory of ETSA Utilities to audit and confirm testing accuracy and uncertainty.

The Business engages NATA Certified Test Services to undertake testing outside its capability such as HV VT and CT ratio and phase error testing via Primary Injection Testing,

3.6. MAMP Review Period

The Meter Asset Management Plan is reviewed annually in May each year by the Business as part of its budget planning for the subsequent year.

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4. METERING ASSET PROCUREMENT

4.1. Meter Register

Citipower and Powercor's Meter Register is its Customer Information System (CIS-OV) system.

The CIS System holds all meter parameter data other than meter and metering transformer test records and test schedules.

- Connection and Metering Point Reference Details
- NMI
- Location
- Details of Market Participants
- Responsible Person
- Transfer Date
- Meter Type Code
- Make
Model
- Serial Number
- Property Number
- Current Range
- Phases
- Wires
- Dials
- Register
- Meter Constant
- Transformer ratios

Unique communications and meter password are held in hardcopy filing systems.

CT Metering test results are held in both hard copy filing systems and test schedules are held in a SAP Works Management System database.

Direct Connected factory commissioning test results are held by the meter manufacturer on behalf of Powercor. In-situ sample test results are held in hard copy filing systems. Test schedules are held within CIS-OV.

Meter transformer records are stored in paper files and test schedule held in a PC Database.

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4.2. Metering Equipment Selection.

As part of the Tender Specification and Contract formation, manufacturers provide the Business with the following information.

- Evidence of Pattern Approval by the National Measurements Institute (NMI) of the meter design that is being specified and delivered under the contract.
- Manufacturer's performance tests against the appropriate IEC or Australian Standard such as AS1284 will be evidenced in the form of a NATA registered laboratory report.

Pattern Approval and Type Tests results are reviewed as part of the Procurement process under the management of Network Engineering Standards, using technical expertise support from Manager, Metering Standards, and Manager, Metering Operations Group.

4.3 Meter Equipment Procurement.

As part of the Contract performance and Meter Delivery, Manufacturers are required to provide the following information.

4.3.1 ADVICE OF CHANGES IN DESIGN/COMPONENTS

The Business requires immediate advice of any subsequent manufacturing changes to that design or component substitution, including software changes/upgrades and evidence of the manufacturers consideration of the impact of those changes.

Where those changes require amended Type Test or amended/new Pattern Approval, the manufacturer is required to provide paper copies of those relevant documents.

4.3.2 PRODUCTION TESTS

The Manufacturer conducts and holds all results of individual meter production tests, either performed as sample batches for single phase Direct Connected Meters, or on every individual CT Connected Meter. Results are made available to Powercor on request.

The Business requires all tests to be conducted with NMI verified test facilities.

4.3.3 WITNESS TESTING / QA AUDIT VISITS

The Business is able to visit manufacturer's plants to witness production and production testing, and to review QA System Accreditation audit records of the manufacturer.

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5. METER INSTALLATION

Within the Powercor Network area the Business undertakes its own installations utilizing Powercor Metering & Servicing Linesmen, or authorized sub-contractor “Local Service Agents” to undertake its Direct Connect Meter Installations, and its own Specialist Metering Technicians from the Meter Operations Group to undertake its LVCT and HV Metering Installations.

Within the CitiPower Network area the Business uses sub-contractors to undertake Direct Connect Meter Installations, and New LVCT installations in the CitiPower Network area, and its own Specialist Metering Technicians from the Meter Operations Group to commission LV CT installations, and to undertake HV Metering Installations.

5.1. DC Metering Installation

Direct Connected Meter Installations undertaken in the CitiPower and Powercor Network Areas are in accordance with the Installation Connection Procedures and VESI Service and Installation Rules.

The Business only engages Manufacturers who are NMI appointed ‘Verifying Authorities for Utility Meters’, for accuracy verification of new Direct Connected Meters. All meters returned from the field are reverified by a NMI appointed ‘Verifying Authority for Utility Meters’. No further accuracy tests are performed at the time of installation and commissioning.

A “Connections Standards Compliance Certificate” acts as a record of installation, and is filed for seven years. The Checklist confirms the following tests:

- Insulation/Continuity
- Polarity
- Neutral Integrity Test Point
- Neutral & Supply
- Phase Sequence
- Meter Rotation/ Registration
- Meter Tariff Programming
- Installation of Seals

Type 5 Meters are installed in accordance with the Procedure 06-P150 ‘Installing Manually Read Interval Meter’.

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5.2. LV CT Metering Installation

Current Transformer Installations are undertaken by the Business in accordance with the Metering Operations Group Reference Manual, in accordance with the Work Instruction 06-W107 “New Installation Current Transformer Metering” and 06-G151” CT In-service Test Guideline”.

In-situ commissioning tests of the Meter, along with CT Burdens and admittances tests are undertaken in accordance with 06-G151” CT In-service Test Guideline”.

The Business only engages Manufacturers who are NMI appointed ‘Verifying Authorities for Current and Voltage Transformers’ for accuracy verification of Metering Transformers, and Manufacturers who are NMI appointed ‘Verifying Authorities for Utility Meters’ for accuracy verification of new Current Transformer Operated Meters.

A CT Metering In-service Report acts as a record of installation. The reports are filed for a minimum of ten years.

The In-service Report confirms the following tests:

- Polarity
- Phase Sequence
- Element Check
- Meter Tariff Programming
- Installation of Seals /warning labels
- CT Ratios
- Burden tests
- Meter Constants
- Loading Conditions

Type 5 Meters are installed in accordance with:

- Procedure 06-P150 ‘Installing Manually Read Interval Meter’
- Work Instruction 06-W150 ‘In-service Testing, M.R.I.M’
- Work Instruction 06-W155 ‘Verify M.R.I.M. Data’

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5.3. HV Metering Installation

Current Transformer (CT) installations are undertaken by the Business in accordance with the Metering Operations Group Reference Manual, in accordance with the Work Instruction 06-W113 “Metering Design” and Work Instruction 06-W107 “New Installation Current Transformer Metering”.

In-situ commissioning tests of the Meter, along with CT Burdens and admittances tests are undertaken in accordance with 06-G151” CT In-service Test Guideline”.

The Business only engages Manufacturers who are NMI appointed ‘Verifying Authorities For Current and Voltage Transformers’ for accuracy verification of Metering Transformers, and Manufacturers who are NMI appointed ‘Verifying Authorities For Utility Meters’ for accuracy verification of new Current Transformer Operated Meters.

A CT metering in-service report acts as a record of installation. The reports are filed for a minimum of ten years.

The In-service Report will confirm the following tests:

- Polarity
- Phase Sequence
- Element Check
- Meter Tariff Programming
- Installation of Seals /warning labels
- CT & VT Ratios
- Burden Tests
- Meter Constants
- Loading Conditions

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6. METER ASSET TESTING

6.1. Direct Connected Metering Inspection and Testing

6.1.1. INSPECTION

Regular inspection of Direct Connected meters for seals and tampering is undertaken by meter reading staff. Details of broken seals/tampering are reported via the trouble codes and loaded into CIS-OV via the PDE and MVRs process and reports are forwarded to the Business's Revenue Protection Group for investigation.

Metering and Servicing Staff perform meter rotation/registration tests in response to customer enquiries in regard to high bills; records of those inquiries are recorded in CIS-OV as notes against the account.

6.1.2. CUSTOMER REQUESTED TESTS

Metering Operations Group undertakes meter tests within the CitiPower and Powercor Network areas in response to customer requests for testing. Records of those tests are recorded in CIS-OV as notes, and test results held in paper filing systems as well as entered into the CIS-OV Meter Register against the individual meter.

Meters found outside class accuracy are removed from service.

6.1.3. COMPLIANCE TESTS

The Business implements an efficient meter family testing program including eighty discrete meter families, in accordance with the requirements of the National Electricity Market Metrology Procedure.

Meter Families

The Business's family sample testing strategy is in accordance with the requirements of "AS1284 part 13". All families tested in 2003 and beyond have been assessed via the "Testing by Attributes" method.

Consistent with AS1284.13, section 8.2 (step 1), meter families are grouped according to:

- a) Manufacturer; and
- b) Design or pattern or type.

The population of each meter family is grouped into five year blocks based on the age of the meters.

Where the meter family contains a mixture of meters with an age greater and less than fifteen years of age, a sub-family is created to include meters within the family that are older than fifteen years.

The Family Meter population has been combined by the Business for like make and model within Powercor and CitiPower, where unique makes and models exist they are retained as unique meter families.

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Where historical age records are not available in the CitiPower portion of the Meter population the meter age profile from the Powercor portion is applied.

During each five year testing cycle, the members of all meter families that reach fifteen years service are identified on an annual basis and tested as sub-families in their own right.

At the commencement of the next five-year test cycle, then identified sub-families are combined and included in the sub-families of meters that are aged fifteen years or greater.

Testing

Meter families or sub-families with an age greater than fifteen years are subject to a compliance test program in accordance with the requirements of the Australian Standard AS1284 part 13 "In-Service Compliance Testing".

The selection of meters for testing from each family or sub-family occurs randomly from the population of the meter family with a sample size determined consistent with the requirements of AS1284.13, table 1 "sample sizes and pass and fail levels for testing by attributes" .

Testing will treat the entire Powercor and CitiPower population of specific make and model as a single family, however samples are to be drawn from the Powercor and CitiPower Network areas in proportion to the overall share of the total population.

Metering Operations Group undertake Meter Family Sample Tests in accordance with Work Instruction 06-W705 " Code Compliant Test Metering" and the requirements of the Australian Standard AS1284 part 13 "In-Service Compliance Testing".

Test results are stored for a minimum of ten years.

Test Result Analysis

Family test results are analysed in accordance with the Pass and Fail levels for Testing by Attributes as defined within AS1284.12

Review of the family performance and failure against the table 4 criteria consists of:

1. Adjustment of compliance test period.
2. Re-definition of population into sub-families
3. Determination of a population failure

Initial compliance tests are conducted on a recurring five-year basis. Consistent with the criteria set out in AS1284.13, table 5 " On-going In-Service Compliance Period for induction and electronic meters", test results are reviewed and the test schedule within the CIS-OV meter register is adjusted accordingly.

Test results are analysed for meter-age based skews in the failure rates and where it is apparent that meters that have performance that fail Criteria 3 ($\pm 3\%$) failed testing belong to a specific age-group, a sub-family is created for this age-group of meters.

The identified meter family or sub-family then is scheduled for removal as part of The Business's meter replacement program (refer section 8- Meter Asset Replacement Strategy).

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Individual meters found to have failed an in-situ compliance test as part of a family sample test are removed from service within accordance with clause 6 and 11 of the Electricity Customer Metering Code.

The remaining population of meters within the family are subject to on-going compliance testing with a revised sample size consistent with the remaining population size.

A Meter Family that has previously failed within one network area based on earlier sample testing is deemed to have failed in the other network area without the need for further testing.

A Meter Family that fails sample testing under the Combined Meter Asset Management Plan will be deemed to have failed in both Powercor and CitiPower Network areas unless subsequent separation into a family sub-population and ongoing testing is justified, on geographic, make/model or year basis in accordance with section 8.2 "Grouping of Meters" AS1284 part 13.

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6.2. Current Transformer Metering, Inspection and Testing

The Business undertakes a Current Transformer (CT) meter inspection and test program of 100% of the meter population in accordance with the requirements of the National Electricity Rules, Chapter 7.

6.2.1. INSPECTION

As identified in the Network Asset Management Policy document 05-C001, meters population are inspected in accordance with the National Electricity Rules, Chapter 7, metering, with a change to the treatment of type 3 inspections to a fixed period of 3 years rather than "When Tested" for type 3 < 2GWh

| | NER Table S7.3.3 | Network Asset Management Policy |
|------------------|-------------------------|--|
| Type 1 | 2.5 Years | 2.5 Years |
| Type 2 | 1 Year | 1 Year |
| Type 3 >10GWh | 2 Years | 2 Years |
| Type 3 2< <10GWh | 3 Years | 3 Years |
| Type 3 <2GWh | When Tested | 3 Years |
| Type 4 | When Tested | 5 Years (When Tested) |
| Type 5 | When Tested | 5 Years (When Tested) |
| Type 6 | When Tested | 5 Years (When Tested) |

All CT meters are subject to individual periodical tests.

Metering Operations Group conduct inspections on CT Connect Meters in both CitiPower and Powercor Network areas in accordance with the Work Instruction 05-W700 "Maintaining Current Transformer Meters" and the Inspection requirements of Network Asset Management Policy document 05-C001 for Metering types 1 to 6.

Inspection schedules are retained within the business's SAP works and asset management system.

Inspection reports are retained for a minimum of ten years.

In addition, regular inspection of Manually read CT connected meters for seals and tampering is undertaken by meter reading staff, details of broken seals/tampering will be reported via the trouble codes and loaded into CIS-OV via the PDE and MVRs process and reports are forwarded to the Business's Revenue Protection Group for investigation.

6.2.2. CUSTOMER REQUESTED TESTS

Metering Operations Group undertakes meter tests in response to customer requests for testing in both CitiPower and Powercor Network areas.

Records of those tests will be recorded in CIS-OV as notes, and test results will be entered into the CIS-OV Meter Register against the individual meter.

Meters found outside class accuracy are removed from service.

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6.2.3. COMPLIANCE TESTS

As identified in the Network Asset Management Policy document 05-C001, meters are tested in accordance with the National Electricity Rules, Chapter 7, metering.

| | NER Table S7.3.2 | Network Asset Management Policy |
|---------------------|-------------------------|--|
| Type 1 (Induction) | 2.5 Years | 2.5 Years |
| Type 1 (Electronic) | 5 years | 5 years |
| Type 2 (Induction) | 2.5 Years | 2.5 Years |
| Type 2 (Electronic) | 5 years | 5 years |
| Type 3 | 5 Years | 5 Years |
| Type 4 | 5 Years | 5 Years |
| Type 5 & 6 | 5 Years | 5 Years |

Meter Families

The Business's CT connected meters are grouped into 16 meter families.

Meter families are based on make and model and if population sizes justify, current ratings and blocks of years.

Testing

All meters are subject to individual periodic tests in accordance with the Network Asset Management Policy document 05-C001.

Test schedules are retained within the business's SAP works and asset management system.

Metering Operations Group undertake individual Meter Tests in both CitiPower and Powercor Network areas in accordance with Work Instruction 06-W705 "Compliance Test Metering" and the relevant requirements of the Australian Standard AS1284 part 13 "In-Service Compliance Testing".

Test results are stored for a minimum of ten years.

Test Result Analysis

Individual meters found to be outside class accuracy are removed from service.

6.3. Meter Transformer Testing

The Business undertakes a meter transformer test program of 100% of the meter transformer population in accordance with the requirements of the National Electricity Rules, Chapter 7.

6.3.1. CUSTOMER REQUESTED TESTS

Metering Operations Group undertakes CT ratio and phase tests in response to customer requests for testing.

Customer requested CT tests are performed on a fee for service basis.

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6.3.2. COMPLIANCE TESTS

As identified in the Network Asset Management Policy document 05-C001, metering transformers are tested in accordance with the National Electricity Rules, chapter 7.

The Business has implemented a full population low voltage (LV) current transformer (CT) testing program on a ten year cycle through the use of 'Red Phase model 590C' CT test sets via secondary injection method.

Note: The term "full population" is used to describe 100% testing of each individual LV CT installed and operating within Metering Installations under the management responsibility and regulatory obligations arising on the Business as Responsible Person and/or Meter Provider for that Metering Installation, and not necessarily all LV CT's within the asset ownership of the Business.

The Business continues to undertake LV CT "Condition Monitoring" as a further asset management tool through the use of admittance tests in accordance with existing VESI practice, on a fixed period of five years aligned with periodical testing of the associated meter asset.

| | NER Table S7.3.2 | Network Asset Management Policy |
|---|-------------------------|--|
| Type 1 (CT injection) | 10 Years | 10 Years |
| Type 1 (VT injection) | 10 Years | 10 Years |
| Type 2 (CT injection) | 10 Years | 10 Years |
| Type 2 (VT injection) | 10 Years | 10 Years |
| Type 3 (CT injection) | 10 Years | |
| Type 3 (VT injection) | 10 Years | |
| Type 3 >1MW "HV" (CT Injection) | | 10 Years |
| Type 3 >1MW "HV" (VT Injection) | | 10 Years |
| Type 3 < 1MW "LV" (CT Secondary Injection) | | 10 Years |
| Type 4 (CT injection) | 10 Years | |
| Type 4 "LV" (CT Secondary Injection) | | 10 Years |
| Type 5&6 (CT injection) | 10 Years | |
| Type 5&6 "LV" (CT Secondary Injection) | | 10 Years |

The Business has implemented a full population high voltage (HV) voltage transformer (VT) and current transformer (CT) testing program on a ten year cycle through the sub-contracting of HV CT and VT On-site Injection Tests to a NATA Registered Test service who undertake primary injection tests in accordance with the requirements of National Electricity Rules, Chapter 7 or as per another test method approved for the Meter Provider by NEMMCO.

Note: The term "full population" is used to describe 100% testing of each individual HV VT and CT installed and operating within Metering Installations under the management responsibility and regulatory obligations arising on the Business as Responsible Person and/or Meter Provider for that Metering Installation, and not necessarily all HV VT's & CT's within the asset ownership of the Business.

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Test results entered into the CT/VT Data Base and analysed for trends.

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6.4. Test Equipment Traceability and Accuracy

All Inspection Measurement and Test Equipment (IMTE) used in Commissioning Tests, in-service Meter and Metering Transformer routine compliance or “Family” testing, and meter testing undertaken at the request of customers within CitiPower and Powercor Network areas, are performed using Test Equipment marked as being in current calibration under the Business’s IMTE requirements under its quality system certification and managed in accordance with the Work Instruction 03-W500 “Field Co-ordination of IMTE”.

Equipment used to determine accuracy performance of Meters and Current Transformers will have NATA certified Traceable Test Certificates, and uncertainties in accordance with NER Chapter 7.

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7. METER ASSET REPLACEMENT STRATEGY

Individual metering assets found to be faulty or fail in-situ testing, are replaced within a target of 6 days in accordance with the requirements of clause 6 and 11 of the Electricity Customer Metering Code.

Direct connected meter families or sub-families that have been found to be non-compliant (refer section 6.1.3 - Test Result Analysis) are scheduled for replacement as part of the business's annual Meter Replacement Program in accordance with the respective replacement strategies for large and small family failure.

The MRP is part of a 5 year rolling cycle, aligned with the Electricity Distribution Price Review (EDPR) from which a regulated revenue allowance is determined by the Essential Services Commission to support the program. Forward looking forecasts of expected meter replacement volumes are based on current compliance test results.

7.1. Meter Replacement Program

The Business's Meter Replacement Program (MRP) consists of an annual plan forming part of a 5 year rolling cycle, aligned with the Electricity Distribution Price Review (EDPR) from which a regulated revenue allowance is determined by the Essential Services Commission to support the program.

The annual meter replacement program is subject to approval by the business's internal Capital Investment Committee

Approval of the annual meter replacement program is considered in conjunction with other mandatory meter replacement requirements, namely the Victorian Government Order (28th August 2007) under section 15D and Section 46D of the Electricity Act 2000 requiring Distributors to install remotely read interval meters for all customers annual consuming less than 160MWhr for which the distributor is the Responsible Person.

7.1.1. SMALL FAMILY FAILURE REPLACEMENT STRATEGY

Subject to the approval process detailed within section 7.1, small meter families that are identified as having failed are scheduled for replacement in the subsequent year's annual MRP.

In addition to the planned meter replacement program, non-compliant meters are also replaced on an "opportunity" basis when other elements of work are undertaken on the metering installation.

7.1.2. LARGE FAMILY FAILURE REPLACEMENT STRATEGY

Subject to the approval process detailed within section 7.1, large meter families that are identified as having failed are scheduled for replacement in subsequent annual meter replacement programs.

Where required, the replacement plan of large meter families may extend across one or more annual meter replacement programs. In such instances, the individual replacement of meters in a large meter family are prioritised by:

- Size of typical meter errors identified in sample.

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- Safety and Standard issues. I.e. Metal Case, 1P 3Wire SWER meters.
- Multiphase installations.
- Tariff complexity
- Large consumption sites.

In addition to the planned meter replacement program, non-compliant meters are also replaced on an “opportunity” basis when other elements of work are undertaken on the metering installation.

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8. APPENDIX –

8.1 Direct Connect Family Testing – Meter Asset Management Plan

8.2 Current Transformers – Data Base Printouts

8.3 CT Connected Meters – Data Base Printouts

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