

Inspection and Maintenance

High voltage testing, calibration, diagnostic work and metering















Testing, calibration and diagnostic solutions for all elements of your electricity network

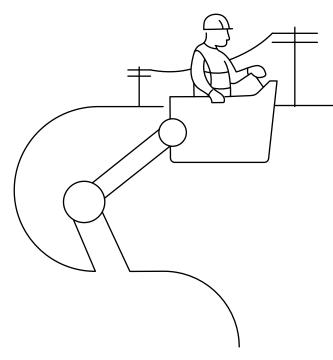
For over 70 years Mondo has provided high voltage testing and diagnostic services.

Wherever you are in Australia, we can help.

Our solutions help you to identify electrical assets that are at risk of failing - before they cause major outages, become irreparable, damage other assets or the environment.

Ensure safe network operation with preventative maintenance works such as thermographic surveys, power transformer condition monitoring, and insulating oil tests.

Whether it's ad-hoc services or annual condition monitoring programs, we will help you focus limited maintenance budgets on the right assets at the right time.



WHAT WE DO

HV Asset Testing

Cable testing

Mondo provide a wide range of testing services on Medium (MV) to High Voltage (HV) and Extra High Voltage (EHV) power cables and accessories.

Some of our testing services include:

- · Commissioning/Pre-commissioning
- Condition assessments
- VLF/VLF-PD test
- Sheath Integrity test
- Fault Location
- Phasing & Continuity checks
- · Impedance measurements and more.

Transformer testing

A power transformer is a critical high value piece of equipment requiring thorough inspection and testing during manufacturing, installation, and commissioning stages.

Electrical testing can reveal manufacturing and design defects, internal deficiencies, damage or risk from transportation and onsite assembly.

Factory testing and on-site acceptance establishes base line data for future testing and asset life management.



Condition Monitoring

We offer a complete range of High Voltage diagnostic, pre-commissioning and condition monitoring testing of electrical plant up to 500kV.

The majority of electrical failures of electrical plant can be traced to insulation failure or breakdown. Only by establishing baseline data and performing regular periodic tests can trending data be post analysed to determine true indications of the insulation and plant condition.

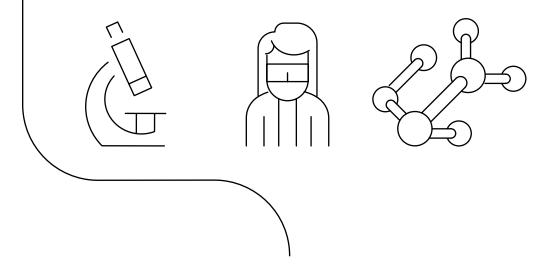
Condition monitoring assessment of inservice transformers generally comprise of tests designed to identify degradation of dielectric paths due to thermal overload, ageing, moisture and mechanical wear and vibration. The type of asset, age, condition, location, utilisation, loading and adopted asset management strategy, typically determines the frequency of periodic testing.

Non-invasive testing

Electrical assets that are failing have a range of different characteristics that can be captured using a variety of hand-held and vehicle mounted sensors.

Our non-invasive testing services include:

- Corona
- Thermographic survey (infrared)
- PD airborne acoustic
- · Ultrasonic scanning
- SF6 leak detection



WHAT WE DO

Chemical Analysis (Oil & Gas), Testing & Calibration Services

We offer independent advice regarding the condition of assets. Mondo has no affiliations with transformer manufactures or oil treatment/refurbishment operators.

To further ensure accurate results, we offer your team with training on sampling techniques and we can provide special sampling kits for sample collection.



NATA accredited

As a NATA-accredited service provider we ensure your compliance with your testing obligations under the National Electricity Rules.



Chemical analysis

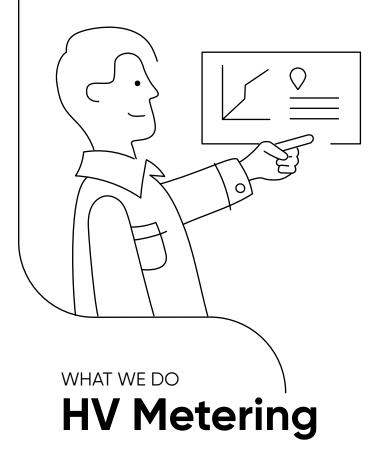
Our NATA accredited laboratory offers a comprehensive range of oil and gas chemical analysis services, including tests for:

- Dissolved Gas Analysis (Headspace DGA)
- · Oil quality and condition
- Oil electrical insulating properties
- · Monitoring of Oil's additives
- Detection of cellulosic insulation condition
- Gas analysis including SF6 Gas Analysis (new and in use)

Testing & Calibration

Mondo has a NATA accredited Electrical Test facility which conducts a vast range of repairs, tests and calibration on HV equipment, including:

- Electrical measurement equipment
- Energy meters
- CTs and VTs
- High Voltage test sets
- Protection test equipment
- Protection Relays
- Specialist test equipment
- OEM type testing and certification



High voltage advisory services

Our team works directly with customers and project managers to provide guidance and advice on all aspects of HV metering.

Our services include:

- Metering scope advisory
- Process and engineering advice
- AEMO application and registration of "K" form
- Coordinating with DNSP to obtain and register a NMI
- Interpreting Chapter 7 of the National Electricity Rules
- Nominating a Metering Coordinator

Pre-commissioning and installation

Our pre-commissioning services ensure an on-schedule, compliant and efficient HV metering installation. We are one of the few that provide NATA-accredited testing of CTs and VTs.

We offer:

- Design, scoping and drawings
- In-house manufacture and build of meter panels
- Pre-commission testing as required by the Rules
- HV meter, CT and VT installation and commissioning
- Post-installation follow-up



NATA accredited

As a NATA-accredited service provider we ensure that your metering infrastructure is safe and the data is accurate for market billing. In addition, we ensure your compliance with your HV testing obligations under the National Electricity Rules.



Testing and ongoing compliance

Our ongoing compliance package is specifically designed to provide peace of mind that your metering assets are operating correctly and to be there for you if a fault arises

This includes:

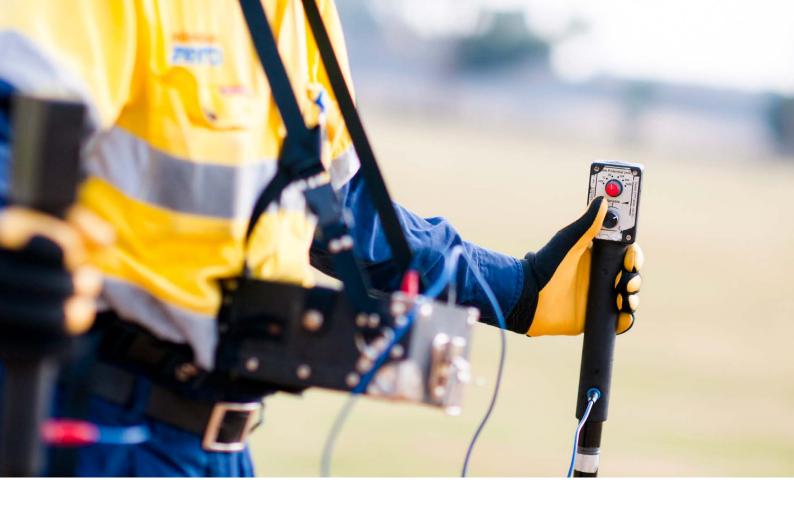
- · Priority fault response
- HV Maintenance Plan
- Ongoing meter testing and CT visual inspections
- Yearly reports on site performance
- Burden measurement of metering circuitry
- NATA testing of metering CTs and VTs

Power quality metering and analysis

We offer a real time power quality metering solution which can be used to monitor and analyse fluctuations in voltage and current harmonics. We use an EDMI Mk6E and offer both permanent and short term solutions.

We can measure:

- Harmonic analysis to 50th harmonic of voltage and current
- Total Harmonic Distortion of voltage and current
- · Recording frequency variance
- Instantaneous 3 phase waveform capture
- Detailed site-specific analysis and reporting on the results



CORROSION PROTECTION

Extend the life of your asset

Corrosion protection for high value underground assets

We design, commission, install and maintain cathodic protection systems for steel assets. We conduct surveys to support the smooth operation of these cathodic protection systems, like coating defect surveys, corrosion potential surveys, electrolysis area tests and continuity fault surveys.

Our staff are fully qualified corrosion protection experts in a wide range of corrosion fields including:

- Cathodic protection design, installation and commissioning
- · Stray current mitigation
- Electrical surge protection
- Pipeline potential surveys
- Tank potential surveys
- Coating defect surveys installation
- · Installation and maintenance
- · Testing of earthing beds
- · Cathodic protection fault finding
- HV Tower footings corrosion protection inspections

