

WHAT WE DO

Powertech's technical specialists are world class, ensuring that your inspection, test, commissioning and start-up requirements are thoroughly met and satisfied. Powertech specialists are highly trained, reliable and responsible. So when you require autonomous individuals with experience in all industry sectors you can count on us.

PEOPLE

To be the best at what we do, we strive to exceed our client's expectations.

Our services are of high value due to:

- **People:** Continuity, depth and quality of expertise provided by our field personnel.
- **Process:** Documenting and reporting via our highly evolved quality control systems.
- **Platform:** National network of teams and locations for rapid response and support.
- **Plant:** Extensive selection from the best brands of inspection and test equipment.



WHAT CAN POWERTECH SERVICES DO TO IMPROVE THE RELIABILITY OF YOUR TRANSFORMERS?

Powertech Services provide commissioning, baseline, time, and condition based testing services including:

Transformer Commissioning

The objectives of commissioning tests are to ensure:

- The transformer has been built to standard
- Damage has not been sustained during transit or installation
- Mechanical and electrical integrity

During transformer commissioning additional testing is more likely to reveal defects or potential problems.

Standard commissioning tests:

- Insulation resistance
- Hi pot (Overvoltage test)
- DC winding and tap changer resistance
- Turns ratio
- Visual inspections
- Soak test

WHAT CAN POWERTECH SERVICES DO TO IMPROVE THE RELIABILITY OF YOUR TRANSFORMERS?

CONTINUED

Optional testing for “baseline” or critical/high value assets:

- DLA (Also known as DDF, Tan Delta, Power Factor) – winding insulation electrical integrity including moisture, carbonisation and other forms of contamination.
- Excitation current – turn to turn failure and core movement or damage.
- Leakage reactance – winding deformation and conformance to name plate impedance.
- SFRA (Sweep Frequency Response Analysis) – winding mechanical integrity arising from winding movement/ deformation and ‘close in’ faults.
- Dielectric frequency response – water analysis of paper insulation and DLA.
- Partial discharge testing on high voltage bushings.

TRANSFORMER CONDITION MONITORING AND SERVICE

Powertech Services uses industry leading test equipment for fast and accurate problem diagnosis. Our extensive range of testing systems enables us to ensure accurate identification of problems encountered in power transformers including:

- Moisture, carbonisation, and other forms of contamination of the insulation of the windings
- Water ingress of paper insulation
- Winding turn to turn, and layer to layer faults
- External damage and general condition deterioration
- Transformer gassing
- Oil quality and moisture content
- Winding or core deformation – a comparison of the SFRA signature before and after movement or large fault conditions
- Tap changer contact resistance

Powertech Services also offers a fault testing service where a transformer faults during service.

When any fault has been found comprehensive written reports offering recommendations to assist future planning maintenance, and to avoid reoccurrences, are provided.

