MOTOR TESTING SERVICES

Motor Condition & Reliability Evaluation

Comprehensive diagnostic procedure for assessing motors Predicts any fault well in advance

ON-LINE MotoTESTING

- Electrical Signature Analysis
- Vibration Analysis
- Acoustic Emission Analysis
- Infrared Thermography

OFF-LINE MotoTESTING

- Partial Discharge Analysis
- Tan Delta & Capacitance Analysis
- PDCA Analysis
- Surge Comparsion Test
- Winding Circuit Anaylsis
- IR, PI & Dielectric Discharge

GENERATOR TESTING SERVICES

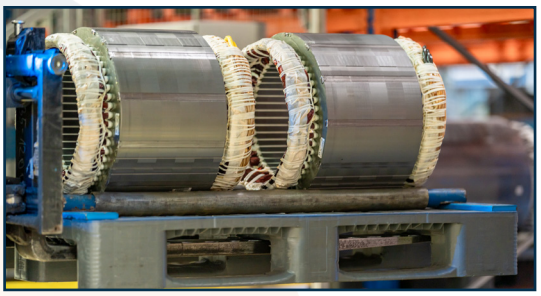
Generator Condition & Reliability Evaluation

Comprehensive diagonstic procedure for assessing generators predicts any fault well in advance

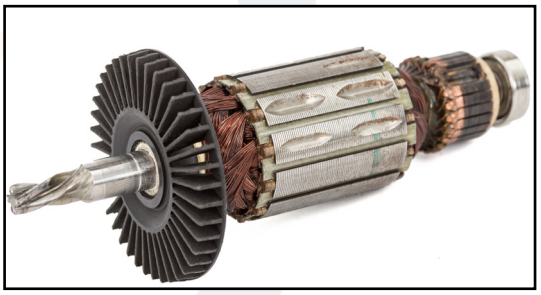
GenTESTING uses the same technologies as applied in MotTESTING In addition, the following technologies are utilized

- Repetitive Surge Oscillgraph
- ELCID
- Natural Frequency Test
- Coil Contact Resistance
- Wedge Mapping
- DC Hi-Pot Test
- Impedance Measurements

Multiple broken rotor bars in a 2300 kW, 6.6 kV induction motor



Defective rotor winding in an 1800 kW, 6.6 kV slip-ring motor



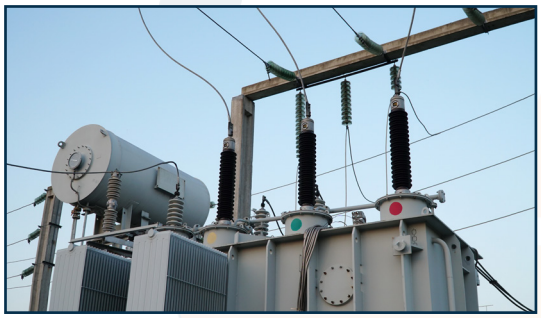
Severe corona in a 210 MW, 15.75 kV generator

Inter-turn shorts in a 116MW, 10.5 kV generator rotor

Fault in 34.5 kV, 1.4 km cable

Fault

Fault in 115 kV transformer termination



On-site overhaul of 32 MW generator

Cryo cleaning of 25 MW generator

CABLE TESTING SERVICES

Cable Condition & Reliability Evaluation

Comprehensive diagnostic procedure for assessing cables Predicts any fault well in advance

- Locates incipient defects along the lengrh of cable
- Distinguishes between overall degradation & localized defects
- Assesses condition of the cable
- Asesses the joints as well ad terminations

ON-LINE Cable TESTING

- HFCT based PD analysis
- TEV based PD Analysis
- FMC based PD Analysis

OFF-LINE Cable TESTING

- VLF Tan Delta & Capacitance Analysis
- VLF/DAC Partial Discharge Analysis
- TDR (Time Domain Reflectometry)
- Jacket/Sheath Testing
- Ampacity Calculations
- Cable Life Assisment

ON-SITE OVERHAULS

We perform overhauls of large motors & generators upto 300 MW.

Our key strength are:

- Turnkey work; from de-coupling to commissioning
- Includes dismantling, inspection, cleaning, heating, varnishing, & testing
- Special kits for retaining ring removal, slip-ring replacement, purge test, etc.

CRYOGENIC CLEANING SERVICES

We carry out cryogenci (dry ice) cleaning of motors, generators, turbines, etc.

This unique techique's advantages include:

- Better cleaning because of the triple action of impact, freezing & gas expansion
- Cleans in crevices & objects with complex geometry that are difficult to reach
- The dry ice becomes gas & goes off into the atmosphere, so no need for removing the cleaning material later
- No environmental hazards non-toxic, non-flammable, non-conductive

TRANSFORMER TESTING SERVICES

Transformer Condition & Reliability Evaluation

Comprehensive diagnostic procedure for assessing transformers predicts any fault well in advance

ON-LINE

- Acoustic Partial Discharge Analysis
- Infrared Thermography

OFF-LINE

- Partial Discharge Analysis
- Tan Delta & Capacitance Analysis
- Frequency Respone of Stray Losses
- Sweep Frequency Response Analysis
- Dielectric Frequency Response Analysis
- Turns Ratio
- Dynamic Resistance Measurements
- Winding Resistance

SWITCHGEAR TESTING SERVICES

Switchgear COndition & Reliability Evaluation

Assesses vented metal-clad MV & HV switchgear
Detects insulation defects within the switchgeas assemblies

ON-LINE SwitchTESTING

- TEV based Partial Discharge Analysis
- Acoustic Emission based Partial Discharge Analysis
- FMC based Partial Discharge Analysis

The Key benefits include:

- No de-energization of the circuit required
- Separation between switchgear PD & cable PD
- Identification of the PD location; viz. Top/bottom & front/back of panel

LIRA (Line Impedance Resonance Analysis)

A breakthrough in cable assessment from Norway

- Able to test all types of cables - from control cables to EHV cables
- Comprehensive & Non-destructive

The Key benefits of LIRA include:

- Test cable lengths ranging from 50 meters to several hundred kilometers
- Detemination of locations of trees as well as physical degradation
- Identifies localized defects as well as overall degradation
- Assess the cable as well as joints & terminations
- Zero risk of failure of cable under test
- Superior fault location; accuracy better than 0.3% of cable length
- Applicable to all Insulation types - XLPE, PVC, PILC, EPR and more

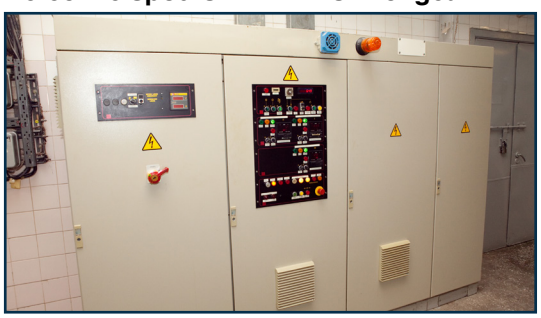
Defective support insulators in 275kV transformer

Damaged moving contact in 31 MVA transformer

Severely degraded & blackend insulation in 8 MVA transformer

Partial discharge in 11 kV switchgear

Defective spouts in 11 kV switchgear



CLIENTS

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