



**Albario Engineering (Pvt) Ltd.**

# **Inspection & Testing Services**

Electrical Testing | Video Boroscopy | Condition Monitoring



[www.aepl.com.pk](http://www.aepl.com.pk)

**Your Energy Partner**

## ABOUT US

Albario Engineering (Pvt) Ltd. was established in Lahore Pakistan in 1954 and working as a one window solution provider in the fields of Energy, Industrial Solutions and Infrastructure.

The group excels in diversified business activities ranging from Engineering, Procurement & Construction (EPC), Electro-mechanical Contracting, Civil Construction, Operations & Maintenance, Outages / Turnarounds, Rehabilitation Services, Real Estate Infrastructure Development, Consulting & Technical Trainings, Gas Engine Spares & Services, Solar & EV Charging Solutions and Manufacturing of Transformers.

AEPL is providing Testing, Diagnostic and Commissioning Services for its valued clients catering to their complete plant assets. At AEPL, we work closely with our customers to support them through the entire life cycle of their assets – from initial testing and commissioning to ongoing diagnostic testing and maintenance of equipment. We build strong working relationships with clients, enabling our service personnel to really understand your specific needs and predict any issues before they arise. We have the expertise, resources and the latest equipment needed to accurately detect and prevent potentially expensive, unplanned outages caused by equipment failure.

AEPL team consists of skilled engineers having key specialization in the field of testing and condition based monitoring and our technical staff is always up-to-date with the latest technological advancements in this field.

We offer Annual Maintenance Contracts and On-Call Special Services for Electrical Testing, Condition Monitoring & Boroscopy.



# KEY AREAS OF SERVICES

Our services are available for multiple plants assets:



**Transformers**



**Generators**



**Motors**  
(LV, MV & HV)



**Switchyard**  
(132, 220 & 500 KV)



**Circuit Breakers**



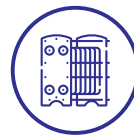
**Power Cables**



**Switchgears**  
(MV, LV Breakers & Protection Relays)



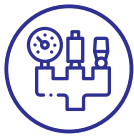
**Pumps**



**Heat Exchangers**



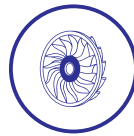
**Boilers**



**Pipe Lines**



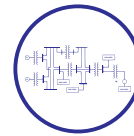
**Compressors**



**Turbines**



**Gearboxes**



**Power System Studies**

# ELECTRICAL TESTING

## TRANSFORMERS

- Insulation Resistance
- Dissipation / Power Factor Measurement Winding / Bushing
- Winding / Dynamic Resistance (OLTC / DETC)
- Transformer Turn Ratio / Vector Group
- Dielectric response analysis
- Excitation Current
- Short Circuit Impedance / Leakage Reactance
- Demagnetization
- Dehydration
- Partial Discharge Measurement
- Oil Testing (DGA, Quality Testing, Furan Testing, Corrosive Sulfur etc)
- Cleaning / Painting / Installation



## PROTECTION TESTING

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- Generator Protection
- Transformer Protection
- Transmission Line Protection
- Bus Protection
- Network Protection
- Distribution Feeder Protection
- Motor Protection

## SWITCHYARD MAINTENANCE

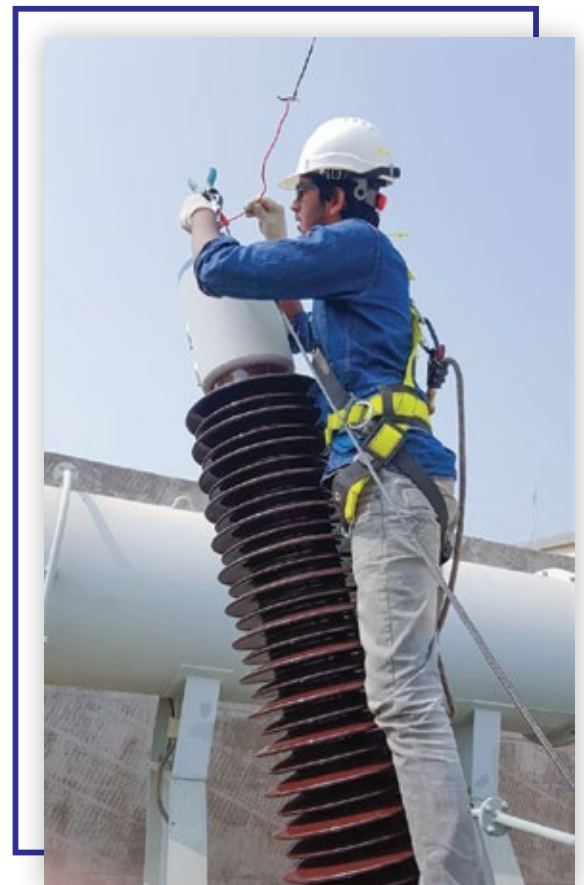
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- Cleaning & Maintenance of HV Equipment
- Tightening of Loose Connections after Thermography
- Replacement of Equipment
- Earth Integrity Check
- Earth Resistance Check

## VOLTAGE TRANSFORMERS (VT)

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- Ratio, Burden and Polarity
- Phase and Magnitude Error
- Excitation Curve
- Winding Resistance
- Secondary Burden
- VT Circuit Continuity
- AC/DC withstand Testing



## CURRENT TRANSFORMERS

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- Ratio, Burden and Polarity
- Phase and Magnitude Error
- Excitation Curve
- Winding Resistance
- Secondary Burden
- CT Circuit Continuity
- AC/DC withstand Testing

## CIRCUIT BREAKERS (MV/HV/GIS)

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- Timing Tests
- Contact Resistance
- Under Voltage Condition Test
- Minimum Pick-up Test
- % SF6
- Dew-Point Temperature
- SF6 by Products
- SF6 Leak Detection
- Cleaning / Greasing / Overhauling



## ROTARY EQUIPMENT

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- IR/PI
- $\tan \delta$  / Capacitance Tip up /  $\tan \delta$  Tip up
- RSO
- Partial Discharge Measurement
- Bore scope / Physical Inspection
- Core Testing / Wedge Tightness
- Online Analysis of Motor  
(GE AnomAlert for Motors Online Condition Assessment)
- Vibration Monitoring



## BATTERY CAPACITY TESTING

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- Battery Load Discharge Test
- Battery Impedance Test



## COMMISSIONING SERVICES

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- HV & LV Switchboards
- HV Switchyards
- Secondary Injection of Protection Relays
- Calibration of Transducers
- Primary Injection of Current Transformers
- Insulation Resistance Tests
- Earth Testing
- Contact Resistance
- Testing of High Voltage Equipment
- Transformer Winding Resistance Testing
- Cable and Cable Fault Locating
- Automatic Voltage Regulator Tests
- Polarization Index Tests
- Partial Discharge and Corona Detection & Fault Finding
- Power Transformer Testing
- Circuit Breakers
- Power Generators



## POWER SYSTEM STUDIES

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- Load Flow Analysis
- Short Circuit Analysis
- Relay Coordination Study
- Arc Flash Analysis
- Stability Studies
- Harmonic Analysis
- Earthing Mesh Design
- Earthing System Study



***We have complete range of latest testing equipment from leading equipment manufacturers including Omicron, Megger, DV Power, Kilovolt.***



## CONDITION MONITORING

- Vibration Analysis of Rotatory equipment using Scout Analyzer
- Turbo Machinery Inspection using ADRE 408
- Infrared Thermography
- Dynamic Balancing (Single and Two Plane)
- Laser Alignment
- Operating Deflection Shape Analysis (ODS)
- Ultrasonic Testing
- Time Synchronous Averaging
- Resonance Issues Solution Providing
- Phase Analysis
- Modal Analysis
- Bump Test
- Motor Current Signature Analysis
- Run Up / Coast Down Test
- Orbit Analysis
- Advanced Gearbox Fault Analysis
- ISO 18436-2 VA CAT-II & CAT-III Certified Services Team



## VIDEO BOROSCOPY

Video Borescope is mostly used in nondestructive testing techniques for recognizing defects or imperfections. It is also an optical tool/technique used to view areas that would otherwise not be visible. We use latest Video Borescopic Systems for Inspection services from Waygate Technologies (Baker Hughes Digital Solutions GmbH) with no limit applications:-

- Gas, Steam and Wind Turbines
- Aviation Engines
- Generators
- Gear Box
- Pipelines
- Vacuum Pumps & Compressors
- Turbo Charges and Automotive
- Gas & Diesel Engine (Gen Sets)
- Boilers & Heat Exchangers
- Welding verification  
(especially for food grade material)







Channel Partner of Baker Hughes-Bently Nevada & Nexus Control Systems in Pakistan offering New Equipment & Upgradation, Spare Parts & Services

Channel Partner & Distributor for Non-Destructive Testing Solutions including Industrial Radiography & CT, Industrial Ultrasound, Remote Visual Inspection & Eddy Current Inspection

## CLIENTS



## GET IN TOUCH WITH US

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