



POSITIVE POWER
— ENGINEERING —

ENERGY | RELIABILITY | INNOVATION



**Complete
Electrical EPC
& Asset Reliability
Solutions**

www.positivepower.in

PARTNER



EPC / PROJECTS

Turnkey Electrical EPC
Switchyard
HT/LT Installation

SERVICES

Commissioning & Testing
AMC
Shutdown & Maintenance
Transformer Overhauling

PRODUCTS & SOLUTIONS

Asset Performance Management
Asset Monitoring
Testing Equipment

SPECIALIZED SOLUTIONS

Dry-Type Transformer Cooling
RTV Coating & Anticorrosion

CLIENT



LARSEN & TOUBRO



TATA ADVANCED SYSTEMS



vedanta

transforming for good

COMPANY OVERVIEW

Positive Power Engineering provides integrated electrical engineering services and solutions covering turnkey electrical EPC, shutdown and maintenance, testing and commissioning, transformer diagnostics, partial discharge assessment, asset monitoring, and specialized electrical protection/anticorrosion solutions. The profile content below has been professionally reorganized from the supplied company document while retaining its stated scope and terminology.

ELECTRICAL EPC – COMPLETE TURNKEY SOLUTIONS

- Engineering, design and technical consultancy
- Procurement and supply of electrical equipment and materials
- Civil and structural works for substations and switchyards
- Equipment foundations, cable trenches, control rooms and earthing systems
- Erection and installation of transformers, switchyard equipment, HT/LT panels, bus ducts, switchgear, CTs, PTs, lightning arresters, isolators and circuit breakers
- HT & LT cable laying, termination, jointing and cable tray installation
- Indoor and outdoor electrical installations
- Protection, control, SCADA and automation system installation
- Pre-commissioning, testing and commissioning using advanced testing equipment
- Grid synchronization, energization and project commissioning
- Operation support, maintenance and post commissioning services

66 KV – MUNJAL KIRIU (INDIA) PVT LTD



66 KV NTPC – 70 MW SOLAR



ELECTRICAL SHUTDOWN, MAINTENANCE & TESTING

Comprehensive electrical shutdown, preventive maintenance and testing services are provided to support safe, reliable and uninterrupted operation of electrical systems. Services include inspection, overhauling, maintenance, testing and commissioning of HT/LT systems, switchyards, transformers, circuit breakers, protection relays, control panels, switchgear and other critical equipment.

- Planned shutdown maintenance and annual maintenance activities
- Preventive and corrective maintenance
- Condition assessment and performance testing
- Troubleshooting and emergency support
- Testing and commissioning support

TRANSFORMER OVERHAULING, TESTING & DIAGNOSTICS

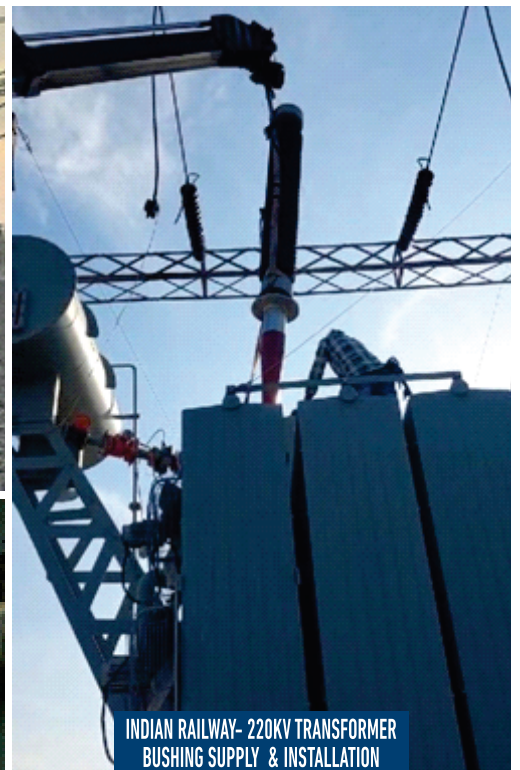
- Preventive & Corrective Maintenance
- Oil Filtration and Drying-Out
- Leakage Rectification and Transformer Overhauling
- OLTC (On-Load Tap Changer) Overhauling

Testing :

Routine & Special test including OLTC Testing with Dynamic Contact Resistance Measurement (DCRM)



132 KV – SWITCHYARD AND PANEL TESTING & MAINTENANCE (L & T – MP IRRIGATION)



INDIAN RAILWAY- 220KV TRANSFORMER BUSHING SUPPLY & INSTALLATION



400 KV GT – JINDAL POWER



OLTC MAINTENANCE

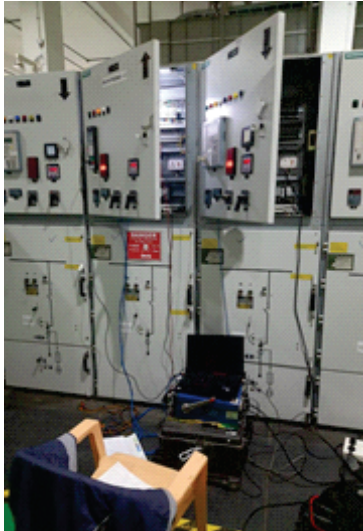


GIS CONNECTED BUSHING GASKET REPLACEMENT

SWITCHYARD AND HT & LT EQUIPMENTS (LT TO 765 KV)

Testing / Overhauling/ Repair/ Maintenance & Retrofitting

- Switchgear
- Circuit Breaker Testing
- CT/PT
- LA
- LA
- ISOLATOR
- Breaker



UPS & BATTERY LOAD TEST, CAPACITY TESTING & DC SYSTEM HEALTH ASSESSMENT

Battery load testing, capacity testing commissioning, performance evaluation and preventive maintenance for station batteries used in power plants, substations, renewable energy facilities, industrial plants and critical infrastructure.

- Constant Current Discharge Test
- Constant Power Discharge Test
- Constant Resistance Discharge Test
- Battery Capacity Verification (% Capacity)
- Runtime Verification
- End Voltage Measurement
- Cell Voltage Monitoring During Discharge
- Temperature Monitoring
- Discharge Curve Analysis
- Capacity Trend Analysis



PARTIAL DISCHARGE (PD) TESTING & CONDITION MONITORING

PD testing, online condition monitoring, diagnostic assessment and predictive maintenance services are offered for power transformers, switchgear, GIS, cables, rotating machines and other high voltage electrical assets.

- Power Transformer Partial Discharge Testing
- Switchgear Partial Discharge Testing
- Gas Insulated Switchgear (GIS) Partial Discharge Testing
- Power Cable & Cable Joint PD Testing
- Current Transformer (CT) PD Testing
- Potential Transformer (PT/CVT) PD Testing
- Generator Stator PD Monitoring
- HT & LT Motor PD Assessment
- Dry-Type Transformer PD Testing

AIRBLAST COOLING SYSTEM CRT/ DRY TYPE TRANSFORMER

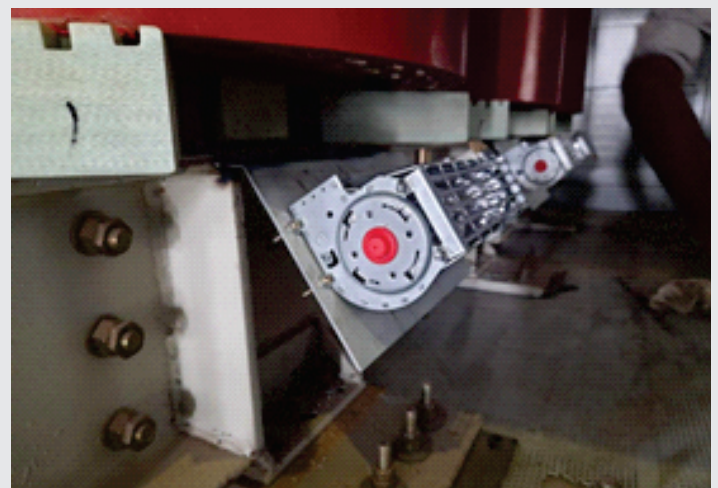
- Providing Fully Automatic Cooling Systems to Improve Health of the Transformer
- Increase the Capacity of Loading & Efficiency
- Reduce the Heat Losses and Save the Energy and Money
- Maintain the Temperature as per the Transformer Standards Is/lec/cbip



400 GIS PD TESTING



CABLE/PANEL/RMU



PD TESTING SOLAR PLANT

Enterprise Asset Performance Management (APM) Suite and asset monitoring solutions for electrical assets, including transformer, GIS and cable monitoring, are included in the company's solution portfolio.

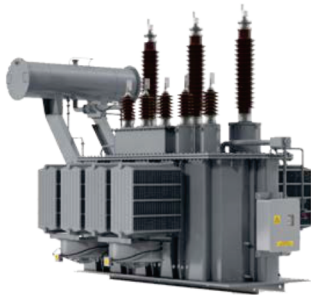
- Asset Performance Management System
- Asset Monitoring – Transformer / GIS / Cable
- Condition Monitoring and Diagnostic Assessment
- Integration-oriented monitoring solutions for critical electrical assets

» Parameters Monitored

for different Asset Types



Transformer



- Temperature monitoring
- NEI & DP analysis
- Complete health indexing
- DGA analysis
- Partial discharge monitoring and analysis
- Thermography
- OLTC monitoring
- Bushing monitoring
- Cooling system monitoring
- Humidity in insulation
- Bubbling temperature

Switchgear

- Breaker Analytics
- Breaker Monitoring
- Motor Monitoring
- SF6 Monitoring
- Contact wear
- Partial Discharge monitoring
- Temperature monitoring



Rotating Machines



- Temperature monitoring
- Power monitoring
- Current signature analysis
- Vibration monitoring
- Flux monitoring
- Realtime Process parameters monitoring



Power Electronics



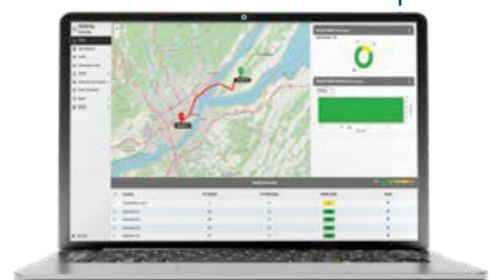
- Relay monitoring
- Battery Monitoring
- UPS Monitoring
- VFD Monitoring



Power Cables



- Partial Discharge monitoring
- DTS
- Fault localization
- Sheath Current Monitoring
- Cable Termination and Joint Temperature Monitoring
- Busduct monitoring



RM EYE

POWER TRANSFORMER MONITORING

Continuous visibility of critical parameters such as winding/hotspot temperature, partial discharge, bushing condition and integration of other transformer-health data.

SWITCHGEAR / GIS / AIS MONITORING

Real-time detection of thermal anomalies, partial discharge activity and developing insulation issues across medium- and high-voltage switchgear.

POWER CABLE MONITORING

Monitoring of cable joints and terminations for temperature, partial discharge and other condition indicators that support early fault detection.

CIRCUIT BREAKER MONITORING

Condition visibility for critical hotspots, temperature deviations and other health parameters to improve maintenance prioritization.

ROTATING MACHINE MONITORING

Thermal, electrical and mechanical condition monitoring for motors, generators and other rotating equipment.

FIBER-OPTIC TEMPERATURE MONITORING

Electrically isolated temperature sensing for high-voltage and high-EMI environments, including transformer windings, motors/generators, cables, switchgear and industrial testing.

PARTIAL DISCHARGE MONITORING

HF/UHF-based monitoring solutions for transformers, switchgear, GIS, cables and rotating machines, with analytics and trend visualization.

ONLINE/ OFFLINE THERMAL MONITORING

Realtime 24x7 thermal Monitoring system for Switchyard and other industrial asset. Early fault detection

- Reduced downtime
- Improved safety
- Automated alerts
- Real-time monitoring

- **RM EYE Enterprise APM**

Multi-asset, multi-site dashboards, health indicators, trend analytics, alarms, predictive insights and maintenance decision support.



- 1 Advanced Asset Performance Management System
- 2 One solution for all electrical assets
- 3 Remote monitoring of network assets
- 4 Avoid unplanned outages
- 5 Reduces cost of planned outages
- 6 Extend the life of your electrical asset
- 7 Minimize asset replacement costs
- 8 Most advanced OEM agnostic solution
- 9 On-prem or cloud based monitoring
- 10 Machine Learning and Digital Twin Capability
- 11 ISO 55000 implementation

AUTHORIZED CHANNEL PARTNER FOR CSL SILICONES INC. CANADA

- CSL Silicones Inc. Canada is the market leader for Silicone Protective Coatings for more than 30 years with Proven Solutions for Pollution, Corrosion & Heat and Trusted partner for worldwide utilities and industries
- **RTV Silicone High Voltage Insulator Coating – For Coastal, Polluted, & Fog Areas to prevent Flashover of Insulators in**

- ✓ Substations from 11 KV to 765 KV – New & Existing
- ✓ Transmission Lines from 11 KV to 765 KV –New & Existing
- ✓ Distribution Lines from 11 KV to 33 KV – New & Existing
- ✓ Outdoor & Indoor HV / MV Panels – New & Existing
- ✓ Solar HT Panels – New & Existing
- ✓ Aged Composite Insulators to restore Hydrophobicity
- ✓ Reactors & Coils along with Support Insulators



Unmatched Hydrophobicity Recovery and Tracking Resistance compared to any HVIC

- No regular Washing / Cleaning of Insulators required – Reduced Maintenance costs
- No flashover of insulators even under extreme weather conditions
- Proven Service life of more than 20 years of Glass & Porcelain Insulators
- Warranty of 10 years for No Flashover
- Restores Hydrophobicity of Aged Composite (Polymeric) Insulators – Long Rod & Housings with Warranty of 5 years
- Unique & Patented formulation with Alumina Tri Hydrate Filler
- Tested for 5000 Hours Multi Stress ageing test as per IEC 601109
- Tested for 1000 Hours Tracking & Erosion Resistance Test as per IEC 62217
- Tested for Pollution Withstand capability of 224 Kg / M3 as per IEC 60507
- Tested for Tracking Resistance for 1A 4.5 as per IEC 60587

ANTICORROSION (SILICONE)

- **Pure Polysiloxane Corrosion Maintenance Coating – For Long Lasting Corrosion Protection from Salinity, UV & Chemicals of up to C5 Corrosivity category**

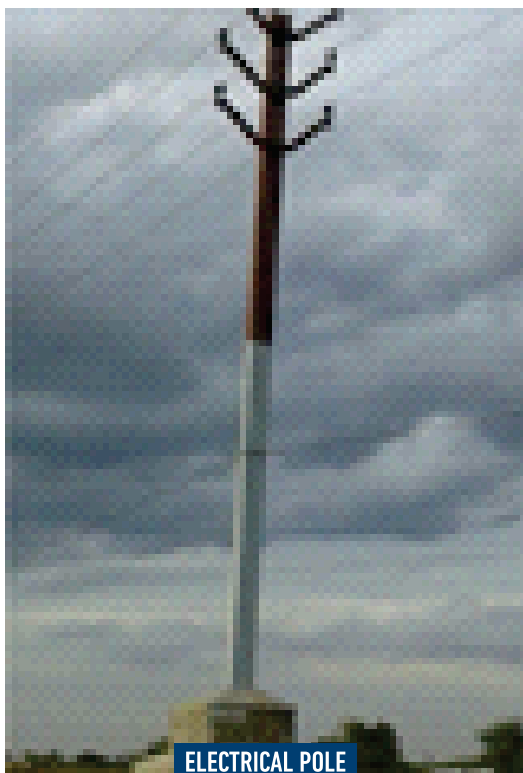
- ✓ Transmission Line Tower Legs – New & Existing
- ✓ Substation Structures & Boxes – New & Existing
- ✓ Distribution Poles – New & Existing
- ✓ Outdoor & Indoor Panels – New & Existing
- ✓ Solar HT Panels – New & Existing
- ✓ Storage Tanks – New & Existing
- ✓ Pipeline exteriors – New & Existing
- ✓ Roof Claddings – Existing
- ✓ Other Areas

UNIQUE FEATURES

- Pure Polysiloxane with Zinc Phosphate Primer for Service Life of More than 10 years
- Tested for Cyclic Ageing test as per ISO 12944-6 for C5 Corrosivity level
- Tested for 2500 Hours of Salt Spray Test as per ASTM B117
- Tested for Dielectric Strength up 30 KV/mm as per ASTM D149
- Tested for Adhesion, Abrasion, Humidity & Impedance as per relevant ASTM / ISO standards
- No Blasting is required – Simple Surface Preparation with Hand / Power Tool
- Warranty of FIVE Years

CERTIFICATION TO PROVE THE QUALITY AND DURABILITY OF ANTICORROSION

APPLICATION



**SWITCHYARD
CIVIL WORK**



**TOWER
INSTALLATION**



**CABLE JOINTING
& CABLE LAYING**



**CONDUCTOR
INSTALLATION**



**SWITCHYARD MESS EARTHING WITH
400 MM ROD**



SOLAR BLOCK INSTALLATION



SUCCESS STORIES

- Supply and Replace 220 KV bushing at Indian Railway
- PD monitoring systems – 400 KV GIS (GIPCL & GSECL)
- Solar Block erection and Commissioning (Earthing , cable laying, Structure installation and Solar Module Installation.
- Testing more than 54 Nos switchyard and plant including yearly Shutdown.
- Rate contract with OIL & GAS
- RTV Coating at Adani Green for Solar plants to minimize flash over faults with new concept.
- Introduce Silicon base Anti corrosion technology for Electrical & Corrosive Asset



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