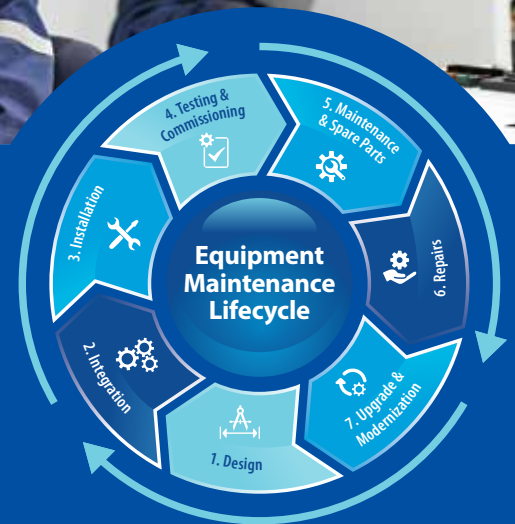


# Electrical System Services



SWTS is an independent technical service provider, offering multi-discipline engineering and industrial products and services.

SWTS offers a one-stop solution to your electrical system and control needs. Our experienced team also continues to provide the necessary technical support throughout the entire life cycle of the equipment.



## Knowledge and Service Capabilities

### Power Generation



- Generator
- Generator Control
- GSU Transformer
- Synchronisation Control

### Power Distribution



- Power Transformer
- Switchgear
- Protection System
- Power Cable
- Bus Duct
- Capacitor Bank
- Drives
- Automation
- Projects

### End User Application



- Motor Control Centre
- Motor Starter
- Drive
- Automation and Control
- Motor
- UPS
- Battery System
- Rectifier Transformer

# SWTS: Electrical System Services

## Knowledge and Service Capabilities

### Preventive Maintenance



- Switchgear
- Motor Control Centre (MCC)
- Transformer
- Power Cable
- Protections and Control System
- UPS and Battery System
- Drive
- Automation and Control

### Condition Monitoring

- Partial Discharge Monitoring
- Infrared/ Thermographic Scanning/ Hot Spot Detection
- Power Quality Measurement
  - Disturbance
  - Transient and Impulse Waveform Capture
  - Voltage Swell and Sag
  - Event and Fault Recording
  - Motor Starting Current and Inrush Capture
  - Real, Reactive, Apparent Power and Power Factor
  - Harmonics (Voltage and Current)
  - Current, Voltage and Frequency



### Power System Study



- Short Circuit Analysis
- Arc Flash Study
- Device Evaluation Study
- Reactor Application Study
- Protective Device Coordination Study
- Load Flow Analysis
- Power Factor Correction Study
- Transient Motor Starting Study
- Harmonics Analysis
- Transient Stability Study
- Load Shedding Study
- Grounding System Study
- Electrical Energy Conservation Study
- Cable Sizing

### Protection and Control System

- Calibration of Electromechanical Relay
- Programming/ Parameterisation of Numerical and Digital Relay
- Upgrade, Retrofit and Modernisation of Protection and Control System



## Testing & Commissioning



- Transformer Turn Ratio (TTR)
- Vector Group Measurement
- Transformer Winding Resistance Test
- Transformer Oil Di-electric Measurement
- Transformer Oil Acidity Test
- Transformer Oil Moisture Content Measurement
- Transformer Oil Dissolved Gas Analysis (DGA)
- Transformer Sweep Frequency Resonance Analysis (SFRA)
- Power Cable VLF High Potential Test
- Power Cable Oscillating Wave Test System (OWTS) Diagnosis
- Power Cable Fault Location Detection

- AC High Potential Injection up to 150KV
- Partial Discharge Measurement
- Insulation Dissipation Factor ( $\tan \delta$ ) and Capacitance Measurement
- Insulation Resistance and Polarization Index Measurement
- Contact Resistance Measurement
- Switchgear Circuit Breaker Operation Time Measurement
- Switchgear (GIS) SF6 Gas Analysis
- Primary Current Injection up to 60,000A
- Secondary Current Injection
- Protection Testing
- Control System Testing (Automatic Transfer System, Load Shedding System)



## Switchgear



- Circuit Breaker Repair and Retrofitting
- Gas Insulated Switchgear (GIS) Gas Leak and Other Repair
- Switchgear Component Replacement, Refurbishing and Repair
- Panel Modification
- Conversion of Bitumen-filled Cable Termination to Air Termination
- Maintenance of Switchgears

## Transformer

- Onsite Replacement of Gasket, Bushing and Other Repair
- Onsite Radiator Repair and Replacement
- On-load Tap Changer Overhaul and Repair
- Onsite Oil Leak Repair
- Onsite Gas Leak (N2) Repair
- Onsite Replacement of Transformer Protection Devices
- Onsite Oil Filtration Service
- Complete Overhaul Service
- Workshop Repair



# SWTS: Electrical System Services



## Licensing of Electrical Installation for Commercial and Industrial Plants:

- New Project
- Existing Low Voltage System
- Existing High Voltage System up to 66KV

## Professional Engineer Consulting Service:

- Endorsement of Report
- Switching to 66KV
- High Voltage Testing
- System Design Consultancy
- System Upgrade, Modification and Refurbishment
- Breakdown Attendance
- Maintenance Plan

## Sectors



- Offshore Installation
- Marine

- Power Station
- Manufacturing Plant

- Oil and Petrochemical Plant
- Pumping Station



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Have any questions? We'd love to hear from you.



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