



Transformer Services

Power transformers are critical for ensuring a sustainable supply of power to prevent outages. With the loss of insulation being irrecoverable, transformer failure risk can be minimized only if oil quality is maintained, moisture is controlled, temperatures are managed, incipient faults are detected and corrected, and an overhaul is conducted at midlife.

GE provides specialized technical services during the whole lifecycle of all high voltage transformers:

- Generator transformer
- Power transformer
- Shunt reactors
- HVDC transformers
- Special transformers
- Traction transformers

Field specialists undertake extensive investigation and condition assessment when required before repair or modernize ageing transformers.

Installation & Relocation

GE offers the assembly and disassembly services of GE and other OEM installations including:

- Complete turn-key
- Full relocation services
 - Rigging
 - Transportation (rail, barge, truck)
 - Installation
 - ISO-phase modification
- Erection and commissioning
- Complete acceptance and commission testing including:
 - Power factor measurement
 - SFRA testing
 - Engineering review

Asset Lifecycle Management Services

Optimize asset maintenance and replacement strategies with GE's [Asset Lifecycle Management](#) services.

Site inspection

- Visual inspection, functional checks and electrical tests including infrared thermography
- Electrical tests including Power factor measurement, SFRA testing and engineering review
- Standard protocol for condition data collection with digital apps
- Data checks and first hand diagnostics
- Internal inspections
- HV testing with mobile facilities

Transformer oil analysis in lab and diagnostics [Learn More](#)

- Dissolved gas analysis (DGA)
- Water content, breakdown voltage, acidity index, corrosive sulphur, PCB, inhibitor analysis, ageing markers: furans and methanol
- Oil analysis plan

Continuous online monitoring solutions

- Transformer retrofitting with monitoring devices and systems covering:
 - Single- and multi-gas DGA for active part or tap changer (OLTC)
 - Bushing, OLTC, cooling system and oil conservator monitoring
 - Partial discharge, transient overvoltage sensors
- Expert consulting services for data analysis and alarm management

Added value services

- Transformer condition assessments, diagnostics and recommendations by GE experts
- Substation and transformer fleet digital management
- Comprehensive centralized asset monitoring
- Mobile workforce tools and processes

Maintenance & Repair

Maximizing the life cycle performance of transformers.

Maintenance

- Corrective and preventive maintenance
- End-of-life and decommissioning solutions

Repair & Mid-life overhaul

- Preliminary inspections and tests up to internal inspection (see detail in Asset Performance Management)

- Repair or replacement of defective or obsolete parts including bushings, small and main components, and accessories
- On load and no load tap changers inspection, repair or replacement
- Major repair or replacement of active part core components up to complete rewind – in repair workshop or at site with HV testing
- Treatment of corrosion points and oil leakages
- Oil processing, treatment and drying or replacement
- Complete regasketing

Spare parts management [Brochure](#)

- Spare parts for legacy and other transformers including tap changer components, bushings, Buchholz relays, pumps, motor fans, coolers, accessories and gaskets
- Strategic spare parts stock for critical, long lead or out-phased equipment

Oil Processing Services

- Oil testing and consultation
- Physical and chemical oil treatment: oil reclamation
- Oil re-inhibiting and passivation
- Hot oil cleaning and drying
- Vacuum filling
- Oil degasification

Permanent hotline

- 24/7 technical support
- Guaranteed response time
- Escalation to technical experts

Modernization & Upgrade

Leverage GE's technical expertise to provide custom engineered solutions.

Modernization

- Life-extension program
- Change obsolescence main components

Upgrade

- Cooling upgrade for power upgrade and life time extension
- Ratio and voltage regulation upgrade to new needs
- Oil preservation system upgrade for Rubber bag or [Drycol](#)
- Bushing upgrade for risks mitigation, safety improvement and new practices compliance and new technologies

- Thermal upgrade of winding insulation to increase rated power or life time

Technical Training

Enhance your team's know-how and productivity with technical training.

Comprehensive training methodologies

- E-learning
- Modular training
- Software training
- Competence development training
- Educational partnership

Complete scope for all employees

- Electrical safety and environmental risk prevention
- Applicable for power transformers, instrument transformers, circuit breakers, disconnectors, gas-insulated switchgear and HVDC systems
- Protection and control systems
- Network management solutions
- Telecommunications
- Grid modernization solutions for the smart grid

