



Tubos Trans Electric is strongly committed with the customer's satisfaction, and is therefore willing to be available every time he requires it, by offering a wide range of services.

Installation and Commissioning

Tubos Trans Electric works with highly qualified technicians and state of the art equipment to carry out the installation and commissioning, of any type of power or distribution transformer, up to 500 kV; anywhere in the world. All jobs are done under procedures developed in years of technical expertise and under the manufacturer's technical specifications.

On Site Services

On Site Testing

- . Insulation resistance measurement (with polarization index and absorption index determination).
- . Winding's Ohmic resistance measurement.
- . Transformer turns ratio test (TTR), polarization and vector group determination.
- . Tranformer Tan Delta Test.
- . HV Bushings Tan Delta Test.
- . Testing and calibration of protections and auxiliary equipment.
- . Turn ratio test for current transformers (internal measurement transformers).
- . Dew point measurement to determine humidity level in the transformer's insulation.

On Site Maintenance

- Preventive and corrective maintenance
- . Technical assistance and supervision
- Load tap changer retrofit (LTC): Tubos Trans Electric works with a team of experts and has the necessary equipment to carry out maintenance jobs in the different LTCs types, according to the manufacturer's specifications. This is a field where the company has more than 30 years of experience. All personnel dedicated to this job have been trained by the main manufacturers of these devices.

On Site Repairs

- . Untanking & internal inspection
- . Disassembly of the active part
- Replacement of windings
- . Refurbishment of the core
- Drying of the active part
- On load tap changer repair

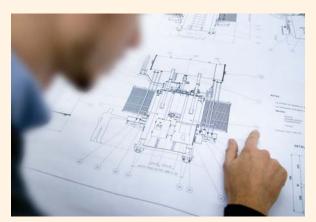












Engineering & Consulting

Tubos Trans Electric has an Engineering Department in charge of advising our clients in the design of transformers according to their requirements; providing new solutions to their different needs.

Training

Tubos Trans Electric offers different training programs on design, maintenance, operation or transformer's accessories; being able to dictate them in the client's facilities. The most usual courses are:

On Site Training

- . Transformer operation and basic rules of maintenance.
- . Operation controls and OLTC and accessories maintenance.
- . Oil Sampling techniques for testing.
- . Protection's calibration and control.

Training on transformer's maintenance and testing

- . Tools for transformers maintenance: Isolating oil analysis, failure diagnosis, and additional electrical measurements.
- . Standard ISO 17025 and its application in oil analysis laboratories.
- . Use of Vegetable Oil as dielectric fluid in transformers.

Courses specially designed according to client's requirements.