



Cophill Power Engineering



Specialist engineers in High and low voltage electrical network's and power distribution



*We offer
a bespoke
professional
service*

Whether your electrical infrastructure is ageing, new or business-critical, let the CPE team design, build, operate and maintain a network you can rely on.

CPE provides a full range of electrical infrastructure services from high and low voltage private network maintenance, installation, asset replacement to contracting and the whole-life asset management and operation of business-critical energy networks.

Staffed by specialist design, installation and maintenance teams, we offer a bespoke professional service to suit the needs of your business, whatever the size or the complexity of the project.

Our experience and expertise in electrical network development and management already benefits clients responsible for Private networks, railway traction systems, large industries, IDNO's, and large accommodation / business complexes in the commercial sectors.

CPE are members of Energy Networks Association. Through our membership we are kept up to date with any Suspension of Operating Practices (SOP's) relating to faulty switchgear and Dangerous Incident Notifications (DIN's) – Where we can all learn from others findings.

Maintenance carried out by CPE Ltd will be recorded on our equipment specific report sheets, these have been designed to meet and exceed manufacturer's recommendations for carrying out electrical maintenance in accordance with BS 6626.

All projects regardless of the size comply to the 2015 CDM Regulations. This ensures that safety, risk management and compliance are at the forefront of each delivery.



Why use CPE as your specialist HV / LV service provider?

- Small independent, professional yet reliable and reactive subcontractor, with highly trained and experienced staff, consisting of multi skilled engineers and technicians.
- Effective planning of strategies for installation & maintenance activities while optimizing the availability of resources and minimising network disruption.
- With the use of latest technology, our stringent processes and quality standards, your high voltage equipment will be back in service in the least amount of time.
- Based in the south of England with office space in Kent and Oxford, we have a National support network from our supply chain and partners within the industry.
- CPE offers consultant services to support individual maintenance strategies based on the condition of the switchgear and site requirements.
- A continuation of maintenance services from diagnostics to preventive and complete overhauls.

*Highly
trained and
experienced
staff*





HV Switchgear - importance of adequate maintenance

The maintenance of all types of circuit breakers, switches and isolators, deserves special consideration because of their importance for routine switching and for protection of the duty holder's electrical network and other equipment. Electrical transmission and distribution system failures and equipment destruction can occur if a circuit breaker fails to operate under operational use or under fault conditions as a result of a lack of preventive maintenance. The need for maintenance of circuit breakers is often not obvious as circuit breakers may remain idle, either open or closed, for long periods of time. Circuit breakers that remain idle for 6 months or more should be made to open and close several times in succession to verify proper operation of the operating mechanism and contacts to remove any accumulation of dust, sediment in OCB's or foreign material on moving parts and contacts.

The only way to combat natural ageing of

equipment while adhering to management requirement is to follow a correct maintenance regime, which allows prevention of faults in the electrical apparatus and components installed within.

The primary objective in maintenance is to prevent failures and eliminate potential damages as quickly, efficiently and safely as possible, whilst at the lowest feasible cost. The main objective of CPE maintenance programs is to optimize the functionality of the existing switchgear, ensure all assets receive the correct level of preventative maintenance activities, prolong the serviceable life of the existing switchgear and maintain detailed and accurate records of the condition and operation of each asset once maintained.

Maintenance programs generally need to be planned on a customer-specific basis.





*Extend
the life of
your assets*

Transformers

A preventive maintenance schedule consists of regular inspections and component replacements according to the product specific maintenance schedule. Maintenance schedules are based on CPE's years of experience including DNO transmission transformers and maintaining many manufacturers' products. Regular preventive maintenance helps facilitate forward budget planning.

The main point of concern in ageing and the life expectancy of transformers is the condition of the insulation medium and its integrity, which is typically based on organic products.

The organic products in a fluid filled transformer degrade over time and they eventually lose the capability to withstand the stresses both electrical and mechanical, a transformer might experience during in daily operation (short circuit faults, energizing, vibration, etc.). It is possible to reverse the ageing and degradation of mineral oil through oil purification process that can restore the material properties close to the values when new. Ageing of paper insulation however is an irreversible process and is considered one of the life-limiting processes of a transformer.

The lifetime of this combination of mineral oil and paper in a transformer is very much dependent on the operating temperature, oxygen content, acidity of the oil and the moisture content in the insulation. Temperature is mainly dependent on the transformer design, the loading, the cooling facilities, and the ambient temperature. Changing these parameters is not easy and normally involves large investments.

To extend the life of your assets, CPE provides preventive (eventually curative) actions to be performed on-site aiming to maintain the performance of the transformer for which specific equipment and a higher degree of expertise is required. It is usually linked with diagnosis tests and possible engineering studies to clearly determine the most appropriate route of action and ensure a condition based maintenance.

Regular / Annual fluid samples can be extracted and independently analysed to analyse the condition of the fluid. Over time this gives a good understanding of how the Transformer is behaving internally.



Battery tripping units and Switchgear DC supplies

CPE offer installation and maintenance of battery chargers and battery tripping units, used in substations for the application of DC supplies for the indications, protection devices, tripping and closing operations of electrical switchgear.

New BTU's can be installed with the experience gained from many years of repairing and installing sophisticated battery charging and control equipment.

Designed to provide a continuous DC supply for operating switchgear and protection equipment, CPE supply the latest units specified with a comprehensive alarm, metering and indication package as standard.

The units we supply feature from informative and clear display panel fixed to the fascia of both wall and floor standing units, with a remote alarm unit as an option. Extremely reliable and easy to install, these units provide a competitively priced solution for any commercial or industrial building.

If a fault is detected in the supply, the battery trip unit is energised and trips the system to cut the supply to your equipment before failure occurs, therefore it is essential that battery tripping units are correctly maintained to ensure successful operation in the event of a fault occurring.

Protecting your power and distribution equipment from faults can prevent equipment failure and potentially catastrophic consequences to duty holders and business users.

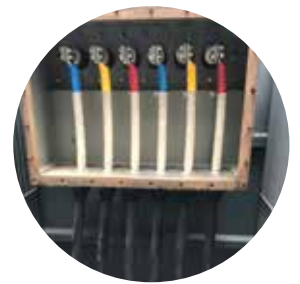
We can also safely remove from site and dispose of redundant units including all types of cells. We have the relevant training, expertise and task specific PPE required to do so.

*Protecting
your power
& distribution
equipment*



CPE HV / LV Services

- HV / LV SUBSTATION MAINTENANCE
- CABLE INSTALLTION, JOINTING & TESTING
- CIRCUIT BREAKER MAINTENANCE, INSTALLATION & RETROFITS
- TRANSFORMERS & TAP CHANGERS
- INSULATING MINERAL OIL, MIDEL AND SILICONE HANDLING AND LABORATORY ANALYSIS
- PROTECTION TESTING, GRADING & DISCRIMINATION STUDIES
- COMA AGREEMENTS
- THERMOGRAPHIC SURVEY'S
- PARTIAL DISCHARGE ACTIVITY SURVEY'S
- 24HR EMERGENCY CALLOUT FACILITY





We even decommission, remove and dispose of redundant substation distribution equipment



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