

Low Voltage Systems

Service and Support Lifecycle





Keeping important services running



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Health and Safety

Health and safety of its people is a fundamental part of ABB's commitment to sustainability.

ABB cares deeply about how its operations and products affect its employees, its customers, its contractors and its neighbours.

Many of the industries in which ABB work – often on customer sites – are by their nature very challenging and accordingly the company has to operate to the highest standard of occupational health and safety excellence and remain constantly vigilant in carrying out its duty of care.

ABB's ultimate aim is to prevent all accidents, injuries and occupational illnesses through the active participation of its customers, contractors and employees.

While the company vigorously manages risk to prevent injuries and illnesses, and are proud of its record, ABB can never allow itself to become complacent.

The successful management of safety starts with the involvement of everyone, from the CEO to its front line workers in a systematic and continual focus on hazard recognition and mitigation.

Safety is like quality, it is fundamental to ABB's business and it is something in which we must all actively engage ourselves.

It is not something that someone else does for us.

ABB's combined efforts and commitment will allow it to achieve a continuing improvement in its safety record.

Service and Support Lifecycle

Keeping important services running



Banks, hospitals, data centres, transportation and petrochemical plants all have the same need: to keep the lights and power on in a safe operational manner. The solution is a resilient power system which needs to be correctly designed, engineered, manufactured, installed, commissioned, maintained and backed up.

ABB's engineering expertise helps you to implement cost-effective, yet highly reliable electrical networks. Paying particular attention to quality, reliability and personnel safety, ABB is the first in the field of high resilient electrical systems.

With manufacturing units in 30 countries, ABB is your global partner, delivering local excellence.

Product range

ABB's product range includes:

- MV packaged substations
- LV main power switchboards
- Conventional and intelligent motor control centres
- Power Distribution Units and UPS switchboards
- Sub distribution switchboards
- MCCB panelboards
- Final distribution boards

Top application and project engineers

ABB gives you access to over 30 years experience in UK power distribution systems, with more than 60 application and project engineers to help you specify and optimise your choice of equipment.

Project management

Electrical distribution installations involve ensuring the safe integration of all products, from a variety of suppliers, whether variable speed drives, electric motors, transformers, trunking, harmonic filters etc. ABB's project management skills help ensure that all products, systems and services are brought together seamlessly.



Installation and site testing

ABB provides installation and services for low and medium voltage distribution equipment and switchgear for ABB and non-ABB products. Among the services offered include integrity of installation, supervision, post installation, testing and a professional start-up service.

Maintenance, repairs and upgrades

On completion of commissioning, your electrical system is at the peak of its performance. To maintain this condition it is essential to adopt a maintenance plan for your asset.

ABB's preventative and corrective maintenance services maximises the performance of your electrical distribution and control system. The company offers service programs, which provide both intrusive and non-intrusive maintenance regimes. Its engineers utilise the most advanced diagnostic and repair practices to reduce mean time to repair and increase performance.

Spares management

ABB offers a range of spares facilities including:

- **Fast parts availability** – emergency and standard parts
- **Parts management** - looking after critical spares stock

- **Emergency parts services** - ABB has centres worldwide capable of dispatching spare parts in the shortest times possible
- **Legacy product services** - ABB works with its customers to continue to support products no longer manufactured, until your business case justifies further capital investments

Documentation

ABB recognises that a comprehensive documentation system is key to the successful maintenance of any system. ABB has invested heavily in ensuring that key technical documentation is available via its website, www.abb.com.

Training

ABB's training programmes are designed to enable your staff to provide primary level support. In practice this means that costly call-outs can be avoided.

Service contracts

Service Level Agreements and the subsequent Service Contracts can be tailored to match the exact needs of your production process or plant.

For more detailed information on ABB's services call 0191 5144555



Service and Support Lifecycle

Pre-purchase/ordering/consultation



UK's top application and project engineers

ABB gives you access to over 30 years experience in UK power distribution systems, with more than 60 application and project engineers to help you specify and optimise your choice of equipment.

Technical consultation services

Before purchasing your electric power distribution system, ABB is on hand to advise on methods that enable you to minimise your future maintenance costs, whilst maximising system resilience. The aim is to design longevity in from the onset. Equally important is helping you identify and resolve single

points of failure and upgrade/migration pathways to cater for future assets. Finally, ABB can provide you with a discrimination study that gives reassurance that protection devices will do their job.

Whether you are selecting intelligent relays or fuse switches, from high resilient systems to domestic systems, from a supermarket to an offshore platform, ABB is an authoritative source of advice.

Safety of plant and personnel is of paramount importance to ABB, as demonstrated by its success in securing OHSAS 18001 accreditation. This culture of safety is mirrored in ABB's approach to system development, fully utilising arc proof and arc guarded designs.

Project management

Services for electrical distribution installations involves ensuring the safe integration of all products, from a variety of suppliers, whether variable speed drives, electric motors, transformers, trunking, harmonic filters etc. ABB's project management skills help ensure that all products, systems and services are brought together seamlessly.



ABB's engineers will help you through the difficult selection process

Case study:

An operator of a major UK data centre experienced failure of a cast resin transformer during above average temperatures and when the cooling load was greatest for the data centre.

Although the data centre remained operational through its back-up generator, the installation was at risk if any further failures occurred. The generator was also expensive to run and so a repair to the transformer, which had not been serviced for many years, was critical.

ABB low voltage systems' service team was approached and within four hours, the transformer had been surveyed and the decision taken to replace it. Within 48 hours a replacement transformer had been sourced.

Within 96 hours ABB had:

- *carried out a survey and risk assessment*
- *written a method statement*
- *removed the old transformer*
- *delivered, installed and tested the new transformer*



Key facts

- A regional team of sales engineers provide nationwide support throughout the project lifecycle
- Over 100 highly qualified and experienced design engineers provide specialist product and application advice
- ABB's products are designed with an identified migration path that ensures asset flexibility in the future
- ABB only uses fully type tested designs – minimising the likelihood of a breakdown and providing a safe environment for your plant operators



ABB Limited

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Service and Support Lifecycle

Installation and site testing



ABB provides comprehensive installation and site testing services for low and medium voltage distribution equipment and switchgear for ABB and non-ABB products.

Access to 50 in-house service engineers located throughout the UK, giving:

- Complete installation and site testing services by fully trained and certified engineers, providing expertise to start-up equipment efficiently following customer specification
- Emphasis on health and safety throughout - all operatives carry health and safety passports
- Trained in methodology of switchgear
- Many engineers hold JIB Approved Technician status

Installation

Integrity of installation

- Even simple tasks such as offloading equipment, requires a meticulous planning to ensure the operation is carried out in a safe and efficient manner. This includes identifying a safe route plan, ensuring lifts are coordinated with other trades and that specialist equipment is at hand.

- The quality of an installation has a direct relation on the longevity of the switchboard. Details such as floor tolerances and board alignment; properly tensioned transport joints; sealing against vermin; and other alien substances, is essential to avoid hotspots, flashover and long term damage, while guaranteeing the integrity of the equipment. ABB's "Multi-Point Installation Checklist" anticipates and addresses the danger areas.



Installation and site testing

Supervision

- Whether clients choose to carry out their own installation or not, ABB can provide a supervisor to watch over the installation of equipment and to provide hands-on installation advice if required

Post Installation Testing

- Following installation, an ABB engineer will test the integrity of any joints disturbed during installation to ensure that power can be safely applied to the system

Site testing

Site testing proves the integrity of all interfaces with other components of the system. It often entails:

- Proving the integrity of hardware and software and the operation of all control and protection equipment to settings provided by the client or calculated by ABB
- Conducting integrated system tests, which prove the systems response in critical situations such as black starts. ABB's presence during these tests, allows its technicians to respond immediately to any possible failures throughout the entire system, thereby saving time and money, in addition to providing a fully audited documentation trail as evidence of all test results.



Professional Start-Up Service

For fast, efficient start-up of a system, ABB's Professional Start-Up service provides certified engineers that guarantee a trouble free start-up by adjusting the system to achieve the maximum production level for the given process. Professional Start-Up also includes personal instruction on the various functions of a system. All the start-up information and the optimal production parameters will be saved should the engineer need to recall any information at a later date.



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Maintenance, repairs and upgrades



On completion of commissioning, your electrical system is at the peak of its performance. To maintain this condition it is essential to adopt a maintenance plan for your asset.

Even with equipment designed for low maintenance, if it is not maintained correctly there is a potential drop in performance. Without maintenance, there is a risk of catastrophic failure, leading to a loss in productivity and potential safety issues.

ABB's preventative and corrective maintenance services maximises the performance of your electrical distribution and control system. ABB offers service programs, which provide both intrusive and non-intrusive maintenance regimes. Its engineers utilise the most advanced diagnostic and repair practices to reduce mean time to repair and increase performance.

Preventative maintenance audit

ABB's maintenance proposals are always based upon the results of an extensive audit of your distribution and control systems in order to assess areas which could benefit from a preventative maintenance programme. This ensures that the subsequent regime

is linked to the way in which your equipment is used, giving you the benefit of:

- Reduced downtime leading to higher availability and productivity
- Reduced maintenance costs by scaling maintenance activity to usage
- Reduce potential for incidents by providing a safe environment for operators
- Annual inspections/recommendation along with scheduled maintenance



Maintenance, repairs and upgrades

General maintenance activities

Equipment inspection

- Non-intrusive
 - Thermal imaging
 - Condition monitoring
 - Appropriate for Motor Control Centres (MCCs), where in-line heating and arcing can go undetected and unprotected
 - On-line diagnostic monitoring
 - Review the status at all critical points
 - Condition checking of enclosures (outside)
 - Verification of ambient conditions
 - Inspection and recommendation of spares inventory
- Intrusive
 - Physical inspection of busbar and busbar joints
 - Checking of devices (circuit breakers, contactors, overloads)
 - General overhaul of switchgear
 - Condition checking of enclosures (inside)
 - Cable connections, module operation, air circuit breaker operation, main/auxiliary contact operation
 - Safety inspection (devices)
 - Verification of protection settings

Servicing

- Servicing of protective devices
 - available on request

Live testing

- Routine testing and checking of changeover and secondary supply systems ensure that if power fails you are guaranteed your system remains in service. This leads to maximum uptime and availability. Whether it be critical services in hospitals, essential supplies offshore or secured supplies in data centres, regular incident testing is an essential component in creating system resilience.

Preventative maintenance programme

ABB's trained engineers will visit your site with the appropriate parts to undertake the maintenance against a carefully designed plant specific maintenance schedule.

The parts identified in the schedule are replaced and equipment is rebuilt. Equipment is reinstated into service if site conditions permit; all actions and measured signals are recorded and a report issued at the end of the visit.

Supportline

ABB's dedicated helpline gives customers access to technical advice during out of office hours. By contacting this number customers will speak to an engineer, who can advise on the most suitable course of action. This dedicated helpline is available 24/7/365.

Emergency breakdown or repair services

Part of your service agreement with ABB could be the provision of emergency diagnostic and repair facilities in the event that the systems are subjected to a failure. The level of response agreed in ABB's Service Level Agreement, is determined by the nature of your business and the competency of your in-house staff.

ABB will work with you to identify the type and level of emergency response required in your business. Response times would be agreed based on location.

Future proof solutions

- As well as providing new switchboards, including installation and site testing, ABB also provides a range of services that help you develop your electrical distribution system as your business grows
- ABB offers advice on upgrading existing switchboards, where shutting down switchboards needs meticulous planning and project management. Where the window for changeover is critical, ABB can assess the risk to your plant; consider all health and safety issues; and re-use any existing cables or other equipment – all with the aim of minimising your downtime and maximising your profits.



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