



Underground switchgear installation services

Eaton's engineering and consulting services focus on understanding business requirements, and setting strategies to ensure long-term, efficient and safe operation of your power system. Eaton's engineers and consultants can help diagnose problems and identify ways to improve performance, or transform concepts into flexible, practical solutions that can improve productivity and capital utilization. Eaton can help keep power systems safe, efficient, reliable and up-to-date.

Eaton's Cooper Power Systems™ underground distribution switchgear provides an environmentally preferred, safer, and more reliable approach to medium-voltage switching and protection. Dead-front construction and enhanced operating features provide added safety and long equipment life with a variety of insulating mediums designed to minimize maintenance and enhance safety.

Underground distribution switchgear pre-installation support

Eaton provides engineering services to support the initial system design, and protection:

- System conceptual and detailed electrical design
- Short circuit, coordination, arc flash and load flow studies
- Specialized switching configuration layouts

- Start-up and commissioning test plans fully simulating anticipated normal and emergency operating conditions

Underground distribution switchgear new construction support

Eaton provides turnkey installation and full support from start-up to completion

- Acceptance testing of individual switchgear components (oil and SF6: VFI and switches) including:
 - Fluid testing, insulation resistance testing, low resistance contact measurements
 - High potential testing, optional power factor (Doble) testing and thermographic analysis, etc.
 - Protection device settings verification and load testing to verify proper trip-functions

- System-wide commissioning to ensure proper normal and emergency operations
 - Testing of all transfer schemes, recloser operations, remote operation via communications protocols and customer-specific operating parameters
 - Synchronizing to utility grid and on-site generation
- Site supervision of equipment handling, installation, connection and energizing
- Complete turnkey installation
- Training of equipment operational modes, protection schemes and troubleshooting guides



Powering Business Worldwide

Cooper
Power Systems
by **EATON**

Underground distribution switchgear operation and maintenance support

Eaton provides full maintenance services including periodic maintenance, multi-year service contracts, and remote monitoring and alarming of potential failure indicators.

- Periodic maintenance during scheduled outages (DGA, insulation resistance, functional tests)
- Equipment thermographic surveys to identify electrical hot-spots
- Multi-year inspection and analysis service contracts

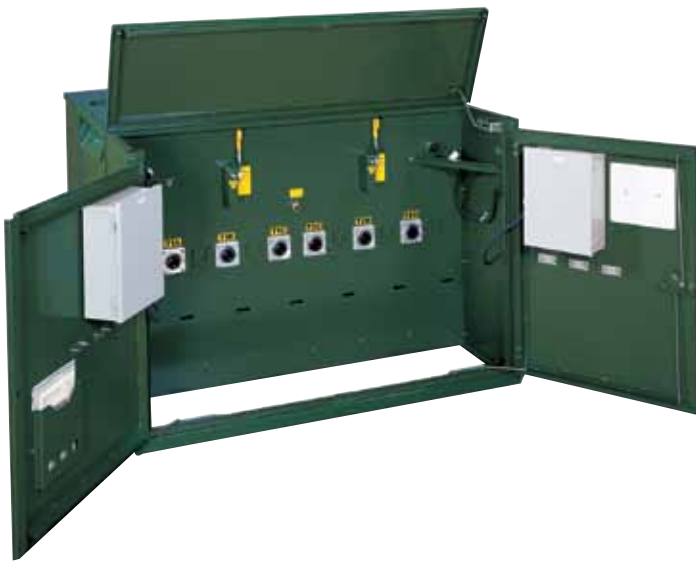
Underground distribution switchgear life extension support

Eaton provides a full complement of the newest technologies to upgrade your existing equipment, therefore providing the latest control and protection functions while maintaining your existing infrastructure.

The power of Eaton

Eaton offers complete services for all your power distribution and automation needs. The Eaton global service team is one of the largest and most experienced teams of power system engineers in the industry available 24 hours a day. Eaton provides equipment acceptance testing, start-up and system commissioning; power system analysis including arc flash, harmonics and other power quality studies and field measurements; preventive maintenance, testing and field troubleshooting; multi-year service contracts; power system automation and remote monitoring; aftermarket life extension solutions; as well as turnkey project capabilities.

Eaton's field service engineers can install, start up, commission and service Cooper Power Systems as well as any other manufacturer's power equipment to precise standards with minimal disruption to ongoing facility operations.



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