

# Optimizing power systems to align with goals



Utility

Industrial

Data Center

Healthcare

University

Government

## Keeping power systems safe, efficient, reliable and up-to-date

Eaton's Engineering Service team delivers solutions to enhance your electrical distribution system's power performance, reduce operating costs, and maximize reliability, safety and integrity. Independent of the age, manufacturer or complexity of your electrical distribution system, our design, build and support services integrate and optimize all elements of a power system to ensure that it is aligned with your business goals.

Eaton's service team is one of the largest and most experienced teams of power system engineers in the industry, with industry-standard software and advanced modeling and analysis capabilities at their fingertips. Their comprehensive portfolio of design services includes safety studies and energy management, power quality and reliability audits.

Eaton understands your business requirements and sets strategies for your power system. With Eaton's help, you'll witness a range of business benefits, from reduced costs to a more effective use of capital. Our engineering and consulting services help you manage your power system as a strategic resource that can give you a competitive advantage.



*Powering Business Worldwide*

## Electrical products and services

PH: (877) ETN CARE  
trc@eaton.com

## Locate an Eaton services office

www.eaton.com/service



## DESIGN

Eaton provides you with expert engineering support to ensure a proper and safe design

**Engineering and consulting services focus on understanding your requirements and setting strategies for your power system in order to satisfy your business needs.**

### Traditional engineering and advanced analysis offerings

- Short-circuit analysis
- Arc flash analysis
- Protective device coordination
- Load flow analysis / power factor correction study
- Motor starting study
- Harmonic analysis study
- Power quality site surveys and disturbance monitoring
- Substation and ground grid design
- Field harmonic measurements
- Transient stability study
- Protection and control design
- Advanced design and analysis
- Distribution system design
- Switching transient analysis
- Distribution systems reliability analysis
- Dynamic simulation
- Specialized applications
- Training

### Benefits

- Modular integrated transportable substation—a turnkey engineering substation solution
- Microgrid design, engineering and installed system
- Substation and power system design
- Alternative power generation design, engineering and grid integration
- Mission-critical facility / data center energy design and efficient upgrades (including modular data centers)
- Lighting assessment and savings analysis
- Design and installation of energy management and monitoring systems

### Automation engineering: advanced and custom applications

- Power monitoring system (EPMS)
- Monitoring solutions: power quality and energy management
- Motor control center systems integration to parent system
- Control systems / power systems automation
- Programmable logic controller (PLC) automatic transfer schemes

## BUILD

Eaton provides cost-effective, on-time system improvements with a single point of contact

**Modernization and turnkey power system services deploy personnel in the field to complete projects, whether upgrading an existing installation or building a brand new facility.**

### OEM equipment services and upgrades

- Westinghouse/Cutler-Hammer/Eaton/Cooper
- Square D
- General Electric
- ITE/ABB
- Allis-Chalmers/Siemens
- Federal Pacific/Federal Pioneer
- Others

### Benefits

- Turnkey modular solutions, hydroelectric and synchronous condenser projects

### Electrical equipment life extension and modernization

- Class 1 breaker reconditioning LV and MV
- Solid-state LV trip unit retrofits and upgrades
- LV air replacement breakers
- MV vacuum replacement breakers
- LV-VSR (breaker to motor starter replacements)
- MV-VSR
- Upgrade equipment front door metering and relaying
- Horizontal main bus upgrades
- High resistance grounding systems
- RPR-2 remote power racking systems

### Turnkey project and construction management

- Single-point responsibility throughout the entire project
- Centralized project management group
- Standardized documentation practices including scheduling, reporting and project closeout
- Installation services including nationwide subcontracting capability of all trades with on-site supervision

# SUPPORT

Eaton can maximize your uptime, reliability and safety with ongoing services

**Contract and support services provide the maintenance, parts and service needed to get the best performance from your existing power systems.**

## Turnkey solutions

- Multi-vendor equipment supply chain
- Supply of the complete range of Eaton products
- Coordination and purchase of all third-party customer preferred components
- Prefabricated control house
- Modular collector substation
- Utility grid management and monitoring systems
- Demand management

## Start-up and commissioning

- Acceptance testing and installation certification
- Ground fault certifications
- Interconnect confirmation and commissioning
- Utility integration
- Warranty extension
- Installation support and supervision
- Start-up and training
- Ground grid testing

## Preventive and predictive maintenance

- PM program design and implementation
- Periodic testing and PM services
- Thermographic survey
- Troubleshooting/testing
- DC power systems
- Predictive diagnostic / partial discharge
- Transformer oil processing

## Maintenance and emergency services

- Complete scope of testing, repair and evaluation
- Short/long-term maintenance contracts
- 24/7 remote monitoring support
- Crisis response personnel dispatch
- Monitoring of relaying, metering, HV, MV and LV equipment and transformers

**Emergency response line**  
PH: 800.498.2678

**Locate an Eaton sales office**  
[www.eaton.com/service](http://www.eaton.com/service)





## About Eaton's Electrical Engineering Services & Systems

Eaton's Electrical Engineering Services & Systems is one of the largest and most experienced industrial service organizations in North America. With more than 1500 highly trained professionals in 60 engineering service locations throughout the U.S. and Canada, Eaton's Electrical Engineering Services & Systems has complete local, national and international capabilities to provide a full range of electrical, civil and mechanical equipment services. This broad range of service capabilities has established us as a leader in the engineering service industry.

For more information, visit  
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