

# Design/build, modernization and turnkey solutions



Eaton's Electrical Services and Systems Turnkey Solutions team can manage a construction project from start to finish, reconditioning or upgrading equipment, or modernizing your power system.



Powering Business Worldwide

Eaton's modernization and turnkey power system services place personnel in the field to complete a variety of undertakings, such as managing a construction project from start to finish, reconditioning or upgrading equipment, or modernizing your power system. With our project management services, you'll have a single point of accountability and a reduced risk of project delays and failures. The result is a safer, more reliable and cost-efficient power system.

So that support is there when and where you need it, Eaton has experienced engineers and field technicians located throughout the world. In addition, we provide additional support from regional product centers for specialized services like equipment reconditioning.

## Turnkey project implementation

We offer centrally coordinated management of all procurement, installation, startup and commissioning of the products and systems required to implement unique power system solutions. Whether you have single or multiple sites, Eaton has the capabilities and the expertise to function as your single-source service provider.

## Project management

Eaton's project management group relieves you from the burden of multi-supplier coordination by serving as a single point of accountability for all technical, financial and commercial coordination within the scope of the project. Additionally, our turnkey engineers manage the technical and commercial risk inherent in meeting project objectives, including performance, cost and time goals. Depending on your needs, Eaton manages either designated or all aspects of your system design and development.

## Power system projects

Eaton can help you improve the performance, reliability and efficient operation of your existing electrical distribution system as well as extend the useful life of all equipment by modernizing your electrical infrastructure.

## Projects

Eaton's projects include design services of all disciplines, equipment procurement, construction services (site, civil, electrical, structural), startup & commissioning (all voltage classes – complex relay schemes), as-built drawings, manuals, and project closeout.

## Electric utility

- Substations
- Excitation
- Protection and controls
- Solar and alternate energy systems
- Facility electrical infrastructure upgrades

## Data center / mission critical

- UPS and mechanical installations
- Modular / container solutions

## Government

- Facility electrical infrastructure upgrades
- DOE/DOD mission critical projects
- Solar, MicroGrid projects

## Commercial

- Facility electrical infrastructure upgrades

## Pulp & paper

- Substations
- Facility electrical infrastructure upgrades

## Petroleum and mining

- Substations

## Services

Eaton provides the following full scope of substation design and construction management services:

### Engineering and design

- Electrical, civil and structural design to 345kV
- Design services
  - Equipment specification
  - Drawing development including civil design
- Power system studies: power quality, grounding, lightning protection, harmonic analysis, short circuit / coordination, Arc Flash, VAR compensation
- Protection, automation and control design

### Project and construction management

- Single-point responsibility
- Centralized project management group
- On-site installation supervision
- Standardized documentation practices including scheduling, reporting, and project closeout
- Project management/scheduling
- Web-based system for documentation sharing
  - PrimaVera and MS Project

### Start-up and commissioning

- Acceptance testing and installation certification – all manufacturers
- Start-up & ground fault certifications
- Interconnect confirmation and commissioning
- Utility integration
- Warranty extension and training

### Multi-vendor equipment supply chain

- Complete range of Eaton products available
- Coordination and purchase of all third-party customer preferred components
- Prefabricated control house
- Modular collector substation

### Installation services

- Nationwide subcontracting capability of all trades – on-site project management
- Site preparation, excavation, foundation, and grounding installation
- Steel erection, equipment installation, welding, cable connections and assembly
- Equipment set and final connections
- Substation yard upgrades
- Transformer replacement
  - OCBs with vacuum replacement or SF6 breakers
- Civil demolition and construction
- Electrical demolition and construction
  - Conduits, cables, steel structures, equipment placement

### Maintenance, emergency services

- Short/long term maintenance contracts
- 24/7 remote monitoring and support
- Emergency services and response 24/7 for all your substation needs
- Immediate personnel dispatch
- Monitoring of relaying, metering, HV, MV & LV equipment and transformers



### How Eaton brings it all together

Conceptual	Design phase & construction	Operation & maintenance
<ul style="list-style-type: none"><li>• Conceptual design process</li><li>• Engineering systems studies</li><li>• Preparation of equipment specifications</li><li>• Preparation of bid documents</li><li>• Selection of appropriate equipment vendors and contractors</li></ul>	<ul style="list-style-type: none"><li>• Review and approval of design drawings</li><li>• Obtaining necessary permits and approvals</li><li>• Equipment construction / installation</li><li>• System startup</li></ul>	<ul style="list-style-type: none"><li>• Performance testing / commissioning</li><li>• Operator training</li><li>• Demonstration of regulatory compliance</li><li>• System operation &amp; maintenance</li></ul>

### About Eaton's Electrical Services and Systems

Eaton's Electrical Services & Systems is one of the largest and most experienced industrial service organizations in North America. With more than 800 highly trained professionals in 60 engineering service locations throughout the U.S. and Canada, Eaton's Electrical 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 the leader in the engineering service industry.

For more information visit [www.eaton.com/eess](http://www.eaton.com/eess)

**Eaton Corporation**  
Electrical Sector  
1111 Superior Avenue  
Cleveland, OH 44114 USA  
Eaton.com

© 2013 Eaton Corporation  
All Rights Reserved  
Printed in USA  
Publication No. SA027005EN / TN  
January 2013

Eaton is a registered trademark of Eaton Corporation.

All other trademarks are property of their respective owners.