Eaton's Electrical Engineering Services & Systems is uniquely positioned to offer advanced solutions to support your design, engineering, construction, startup and generation system modernization needs.

Predictive and preventive maintenance for generation equipment

- Preventive maintenance and test of transformers, OCBs, SF6 breakers, circuit interrupters, cutouts, relays, switchgear, PTs, CPTs, CTs, reactors, grounding systems and lightning arresters
- Transformer and breaker oil analysis
- Preventive-maintenance program design and implementation
- Partial-discharge testing and analysis
- Maintenance contracts
- · Thermographic surveys
- Performance-based maintenance programs

Power system design and analysis capabilities

- Arc flash studies
- · NERC compliance reporting
- Coordination / short circuit/ fault current studies
- Load flow / power factor studies
- Grounding analysis/ ground grid design
- · Transient stability studies

Substation turnkey design capabilities

- · Crisis response—nationwide
- Substation commissioning and startup
- Substation operation and maintenance
- · Integrated project solutions
- New substation design and construction
- · Energy management
- Project management

Equipment life extension

- Medium-voltage vacuum replacement breaker designs for most OEM's breakers
- Generator breaker replacements
- More than 200 ANSIapproved designs
- Switchgear modifications, bus-bracing analysis
- Protective relay upgrades, retrofits and redesign; new doors, etc.
- Add to existing switchgear
- Energy management, PLC control and load shedding
- · System metering and control
- Power breaker centers dedicated to the reconditioning of low- and medium-voltage breakers and contactors per ANSI C37.59-2002
- Excitation system replacement and upgrades
- High-resistance grounding system design and installation
- Low-voltage replacement breaker (LVAR) and vacuum starter replacement (VSR)

Transformer capabilities

- · Bushing monitoring systems
- Oil processing rigs—
 oil-fill/degasification/vacuum-fill
- Transformer internal inspections, reblocking, rewinding, etc.
- PCB disposal
- · Dress out / startup
- On-site repairs
- Power factor (Doble) testing
- Tap changer repairs and replacements
- Envirotemp™ FR3™ fluid retrofil



start up, commission and maintain virtually any manufacturer's power equipment.



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.

Turnkey project implementation

Energy management projects

Power systems projects/modernization

Equipment installation, startup, commissioning and warranty

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

We excel at monitoring, measuring and controlling the power that flows through your facility and turning it into a competitive advantage for you by helping to reduce energy and operating costs while also improving uptime and reliability. Eaton uses our expertise to design an effective power management program for your facility.

of your existing electrical distribution system as well as extend the useful life of all equipment by modernizing your electrical infrastructure.

commission virtually any manufacturer's power equipment to precise standards with minimal disruption to ongoing facility operations. Our service engineers are well trained on efficient, standardized processes that get a system commissioned quickly, providing beneficial operation sooner.

> Emergency 24/7 response line 1.800.498.2678

For more information, please visit Eaton.com/service



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