



Remote terminal unit turnkey replacement services

Utilities are looking to modernize and secure their substation communications. This is driven by a need to have better security, communications, reliability and efficiency in our electrical grid. A key aspect of modernization is the addition of remote monitoring, while minimizing substation service interruptions. Remote monitoring can be achieved via the addition of new or replacement of legacy remote terminal unit (RTU) systems, with an up-to-date, proven, secure and cost-effective solution.

Specific challenges related to the use of legacy RTU systems

The need for a smarter and more secure grid is driving the requirement for faster and more responsive equipment with ever-increasing numbers of intelligent electronic devices (IEDs). These devices require communication, integration and advanced automation solutions at the local substation level.

Some legacy RTU designs are over 20 years old, with limited hardware capabilities and software that are no longer supported. These factors present numerous challenges for utilities. Consider the following limitations of some legacy RTU systems:

- No secure authentication or secure remote connections
- No support for newer, more appropriate, communication protocols
- No local HMI capabilities
- No Web access
- No non-operational data management (Sequence of Events, event files retrieval)
- Outdated communications platform

Eaton's turnkey services

Eaton's Electrical Engineering Services & Systems division is one of the largest and most experienced industrial service organizations in North America. With more than 1,200 highly trained professionals in 80 engineering service locations throughout the U.S. and Canada, we have complete local, national and international capabilities to provide a full range of electrical, civil, mechanical, retrofit equipment and reconditioning equipment services. We bring together our project management, design-engineering and commissioning experience to offer a full-service utility team that can deliver successful projects for our customers. This broad range of service capabilities has established Eaton as a leader in the engineering service industry.

Eaton's modernization and turnkey services place experienced personnel in the field to complete a variety of undertakings, such as managing your reconditioning, upgrading or modernization project from start to finish. 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 project delivery.



Powering Business Worldwide

Eaton can be your single-source provider, or we can complement your internal capabilities to complete projects on time and on budget.

Our RTU replacement turnkey services include:

Assessment



- Review and confirm project scope
- Site and documentation assessment
- Review of existing drawings, condition of physical equipment on-site
- Evaluation of project timing vs. scope

Project planning



- Create proposal including scope of work and detailed cost estimate
- Project schedule
- Project coordination between all stakeholders
- Onboarding with customer standards
- Create communication procedure
- Develop testing and commissioning plan

Design



- Create all schematics, layouts, wiring diagrams, installation drawings
- Procurement of all materials (coordination with utility)
- Equipment racks and relay panels manufacture
- Follow QA/QC process and PE stamping
- Customer design review
- Create configuration files for RTUs and protective relays
- Grounding and power systems studies

Turnkey project implementation

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

Project execution



- Pre-construction meeting on-site
- Equipment delivery and installation
- Supervision, testing and commissioning
- Communication verification
- Utility, OSHA and NFPA safety requirements

Close-out



- Test reports
- Issue site-specific "as-built" drawings
- RTU and protective relays settings file
- Complete all necessary safety documentation
- Close-out meeting and lesson learned

Eaton can replace virtually any manufacturer's product with your choice of remote terminal unit.

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