

Modular Protection Automation & Control (MPAC)

ABB Electrification Distribution Solutions



ABB provides complete protection, automation and control systems for an entire substation integrated into a modular building, that is tested and delivered to site.

MPAC is an integrated solution for protection, control, automation and communication for high voltage substations. ABB ELDS provides the design using Bentley Substation, MicroStation and AutoCAD software. Project Management, panel integration and FQC testing is provided. This includes complete wiring, ring-out, DC power up and secondary injection testing.

Building Preparation

- Building Inspection
- Installation of Termination Cabinets
- Installation of AC & DC Distribution panels
- Install grounding cable
- Layout floor dimensions for panels
- Drill and tap floor for installed equipment
- Run control cables and communication fiber optics in cable tray
- Install relay panels

Complete Project Lifecycle Support

- Application engineering: Review requirements, develop preliminary design, labor, and material cost
- Bid, negotiations, and project award
- Develop single line, panel layout drawings, and Bill of Materials
- Engineering design review with customer
- BOM approval, order building and all materials
- Develop detailed design including all AC & DC schematics
- Panel construction and wiring
- Panel integration into building
- Building inspection, testing and FQC
- Building delivered and off loaded at site

Inspection & Testing

- Ring out of all wiring to schematics
- Power up relays with DC
- Secondary Injection from termination cabinets
- Test relays and devices for acceptance.
- Perform factory acceptance test and documentation
- Check HMI communication to relays
- Mark-up As-built drawings
- Perform final inspection
- Prepare building for shipment



Power Systems Engineering

ABB power system studies provide customers with the information necessary to upgrade and maintain their power delivery infrastructure. The results focus on improving electrical safety, reducing operating costs, improving efficiency, increasing reliability and improving system maintainability.

- Data Collection
- Short-circuit, Coordination and Arc Flash Analysis
- Arc Flash Training
- Review Existing Arc Flash Analysis
- Arc Flash Mitigation Analysis
- Load Flow Analysis
- Harmonic Analysis
- Grounding Analysis
- Motor Starting Analysis
- Power Factor Analysis

System upgrades involve protective relays, automatic throw-over, reclosing, tripping, lock-out and blocking schemes, as well as optimizing power system operating set-points throughout the facility.

- Increase operating reliability
- Evaluate impact of adding new equipment
- Reduce operating costs
- Optimize system upgrades
- Identify source of failures

Benefits

- Solution-based program
- Minimizes on-site commissioning
- Reduces site construction labor requirements
- Schedule certainty
- Facilitates full SCADA monitoring and control
- Provides the foundation for enterprise wide integration

ABB Advantage

Trust ABB for top-quality reliable solutions, including:

- Experienced engineering and technical support
- Relay coordination studies and settings
- Arc Flash studies and mitigation
- Industry-specific application expertise
- Global service network
- Emergency Service Available

Contact us:

For more information, call us toll free at +1 888 434 7378, or +1 540 387 8617 and visit us on the web at go.abb/industrial