

ELECTRICAL & INSTRUMENTATION

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Engineering/Design Services

Analyze Power Systems

- Load Flow, System Reserve for Future Loads
- Voltage Drop and Fault Current
- Protective Coordination
- Large Motor Starting Impact
- Energy Saving Potential, Cost and Return
- Power Quality Analysis
- Arch Flash Analysis

Power System Design

- Detailed Engineering & Design
- Coordination with the Utility
- One-Line Diagrams
- Plans and Specifications
- Substation Design

Facility Electrical Design

- Power, Control, and Instrumentation Plans and Details
- Lighting Systems Design
- Equipment Specifications, Bid Requests, and Bid Analysis
- Installation Specifications, Bid Requests, and Bid Analysis

Document Existing Power Systems

- Measure Existing Loads
- Update One-Line Diagrams
- Record Sizes and Ratings of the System Components
- Plot Coordination of Protective Devices

Design Control and Instrumentation

- P & I Diagrams
- Motor Elementaries
- I/O Wiring Diagrams
- Loop Diagrams
- Plant Network Design
- Wireless Network Design
- Controls Integration
- Instrument Data Sheets
- Relay Logic
- PLC Programming and Documentation
- HMI Programming
- Logic Programs
- Stand Alone Instrument Systems

Design Expansions to Existing Power Systems

- Check Impact of New System on Existing System
- Provide Master Plan that Allows for Additional Expansion
- Detailed Engineering, Plans and Specifications
- Bid Request, Bid Analysis, and Shop Drawing Review

In-House Design Tools

- Easy Power Design Software
- EDSA Design Software
- AutoCAD Drafting
- Extensive Library of Symbols, Standard Details, and Blocks
- Master Database Networked to All Computer Stations
- Extensive Library of Specifications, Standard Details, and Data
- PLC Programming and Documentation Software



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