



## Electrical Consulting Services:

- **Electrical Power System Studies**
    - ☛ Arc Flash Hazard Analysis
    - ☛ Short Circuit Studies
    - ☛ Coordination Studies
    - ☛ Load Flow & Motor Starting
    - ☛ Power Factor Correction / Harmonic Analysis
    - \* We utilize ESA EasyPower Software or SKM Software.
  
  - **Estimating / Opinions of Probable Cost**
    - ☛ Construction Cost Estimating
    - ☛ Bill of Materials
    - ☛ Scheduling & Project Management
  
  - **Bid Package Preparation**
    - ☛ Scope of Work
    - ☛ Specifications
    - ☛ Boiler Plate
    - ☛ Contractor walk-throughs and evaluation
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## Electrical Engineering Services:

- **Electrical Design Drawing Creation using AutoCAD**
  - ☛ Electrical Power System One-Line Diagrams
  - ☛ 480 Volt Motor Control Centers
  - ☛ Motor Control Schematics
  - ☛ PLC I/O Wiring Diagrams
  - ☛ Instrumentation Wiring Diagrams
  - ☛ I/O & Control Panel Layouts & B.O.M.
  - ☛ Lighting Panel Schedules
  - ☛ Equipment, Lighting & Receptacle Layout Drawings
  - ☛ Conduit/Raceway Schedules
  
- **Specification Writing (CSI Format)**
  - ☛ Electrical Installation Specifications
  - ☛ Electrical Equipment Purchase Specifications



## **Industrial Automation & Control Systems:**

- **PLC/HMI Programming Services**
    - ☛ Allen-Bradley / Rockwell Software – All Platforms, All Software
    - ☛ Wonderware – All Platforms, All Software
    - ☛ Intellution FIX SCADA
  
  - **Industrial Database Admin & Programming**
    - ☛ Microsoft SQL Server 2000 Admin and T-SQL programming
    - ☛ Microsoft Access Database programming
    - ☛ Integration of PLC Control System with Database and MES
    - ☛ Visual Basic Front Ends
    - ☛ Visual Studio.Net programming
  
  - **Process Control Programming**
    - ☛ Functional Description Creation
    - ☛ Batching/Weighing Systems
    - ☛ Blending and Proportioning Systems
    - ☛ PID Closed-Loop Control
    - ☛ Sequential Control
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## **Industrial & Office IT/Network Services:**

- **Ethernet TCP/IP Network Design**
  - ☛ Installation/Purchase Specifications
  - ☛ Industrial / Redundant media/hardware
  - ☛ Redundant Fiber Optic backbones
  - ☛ Network Cabinet Layout Drawings & B.O.M.
  - ☛ Patch Panel Schedules
  
- **Wireless Network Design**
  - ☛ Hardware Specifications
  - ☛ Wireless Router Configuration
  - ☛ Security Configuration
  - ☛ Firewall Setup/Configuration
  
- **Windows 2000 Server Domain Administration**
  
- **Remote Access Solutions**



## On-Site Services:

- **Inspections / Surveys**
    - 🔧 Existing Site Electrical Equipment Review
    - 🔧 Arc Flash Data Collection Services
  
  - **Troubleshooting**
    - 🔧 Control System Troubleshooting
    - 🔧 Network Hardware Troubleshooting
    - 🔧 Field Device & Wiring Testing/Troubleshooting
  
  - **Commissioning**
    - 🔧 PLC/HMI Software download and debug
    - 🔧 Field Device & Field Wiring Checkout
    - 🔧 Instrumentation Calibration
    - 🔧 PID Loop Tuning
    - 🔧 Variable Frequency Drive Commissioning
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## Remote Phone Support Services:

- **Troubleshooting**
  - 🔧 Internet VPN or Remote Desktop Support
  - 🔧 Remote Network Administration
  - 🔧 Control System Troubleshooting
  - 🔧 PLC/HMI Troubleshooting & Software Changes