

TSA Electric Inc. is an expert in providing fast, friendly and professional services to the commercial and industrial sectors. We always provide top quality installation at very competitive pricing. We are dedicated to ensuring the highest level of customer satisfaction.

Our staff are:

- · Highly Trained
- Qualified
- Licensed Electricians
- Insured and Bonded
- Safety Conscious

We follow strict guidelines to ensure that all our work is completed in a safe and effecient way. We fully adhere to site safety requirements and have a working relationship with the Construction Safety Association of Ontario. We are always available during startup and commissioning to ensure that all equipment has been properly integrated into the plant environment.



Electrical Safety Authority TSA Electric Inc. is approved by the Electrical Safety Authority under their Authorized Contractor Program (ACP). The Authorized Contractor Program was developed by ESA to recognize those contractors who consistently perform Ontario Electrical Safety Code compliant work.

# **Electrical Services**

- Plant Installation and Electrical Construction
- Commissioning and Start-up
- · Plant Maintenance
- Panel Building
- Lighting Design and Installation
- Plant Automation
- Substations
- · Power Distribution
- MCC Installations
- · Network Installation (LAN)
- · Control System Networks (DH+, MB+, DeviceNet, ControlNet, etc.)
- · Fibre Optic Networks
- · Troubleshooting
- · Short Circuit Analysis and Coordination Studies
- $\cdot\,$  Usage and Load Studies





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# TSA Process Control System Integrators (Owned & Operated by TSA Electric Inc.)

The engineering department consists of a highly talented group of professional engineers and technical individuals that possess extensive process knowledge and expertise. We provide our clients with innovative, responsive and effective ways to create solutions that:

- Streamline processes to increase efficiency
- Reduce operating costs
- · Provide access to process information for management

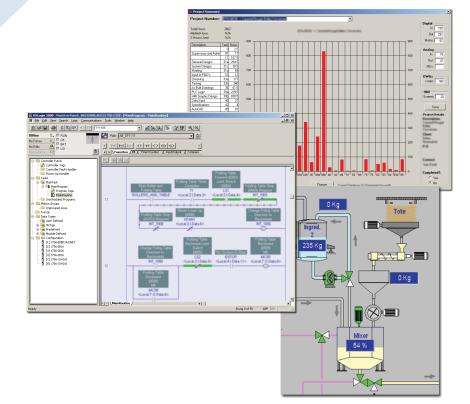
We always bring fresh ideas to each project while continuing to utilize our industry-proven techniques. We strive to build and maintain long-term relationships with our clientele by:

- Completing all our projects on time and on budget
- Maintaining client confidentiality
- · Working closely with project managers to ensure that all their project needs are being addressed
- · Being a reliable resource when emergency situations require a quick response
- · Maintaining an organized internal structure and one-point contact person for each project
- Providing innovative solutions
- · Always providing the highest level of customer service

# **Engineering Services**

- · PLC (ControlLogix, Concept, etc.)
- HMI (Intouch, RSLogix, iFix, etc.)
- · Motion Control
- · Plant Automation
- · Networking (LAN)
- Control System Analysis
- Safety Systems
- AutoCAD
- Control System Communication
- Process & Control Narratives
- Documentation
- · Process Optimization
- Training
- · CIP (Clean In Place)
- · Recipe Management
- · Feasibility Studies





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The technology-based Information Management department delivers innovative business and technology-driven solutions to complex software engineering and IT management challenges. We take pride in our ability to convert machine level data into meaningful information. Our solutions are effectively implemented, operated, supported and maintained.

Our innovative solutions cover a wide spectrum of areas including:

- Scheduling
- Auditing
- Inventory Control
- Predictive Analysis
- Cross System Communication



## · Real-time Data Acquisition

Real-time Data Acquisition allows management to make quick decisions and real-time predictive analysis. This introduces a proactive approach to predictive maintenance which can lower downtime and increase productivity.

85

## · Historical Data Acquisition

Historical Data Acquisition retrieves information that assists with informed decision making based on historical triggers and events. This stored data also provides an audit trail and the ability to capture quality assurance information.

#### Process Automation

With Process Automation we can help eliminate repetitive system work which in turn will free up valuable time.

## Cross System Communications

With the constant addition of new systems there are often communication barriers. We can minimize these by bridging the gap between these complex systems using Cross System Communications.

## Web/Intranet Interfacing

Information is power! Having the right tools to deliver it is crucial. With Web/Intranet Interfacing multiple users can access the system simultaneously while extending the reach of valuable information to small web-enabled devices. With this approach, updates or improvements are applied in one location only.

## Windows/Database Applications

We provide Windows/Database Applications to communicate and manage your information systems.

## Dynamic Spreadsheets

With Dynamic Spreadsheets we can provide "dynamic data" based on historical and/or real-time information. This approach allows spreadsheet users to manipulate the collected data in a fashion that they are familiar with.

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