

Engineering Services

Comco Engineering Ltd. is licensed in the provinces of Manitoba (EGM), Saskatchewan (APEGS) and Alberta (APEGA) to provide consulting services in Electrical Engineering. In partnership with CEL, Comco Engineering provides Electrical Design-Build Services for industrial and commercial projects.

Engineering Packages

- Design-Build plant electrical in cooperation with owner and mechanical design
- Design and supply of major electrical components for installation by others
- Design only of plant electrical or a portion thereof
- Various Engineering studies as outlined on the next page

Engineered Drawing Sets

Design Services include all or a subset of the drawings listed. All construction drawings have an Engineering Seal. As-built drawings are provided on project completion.

- Single Line Diagrams
- Transformer Details
- Central Distribution Elevations
- Motor Control Centre Elevations
- Electrical Room Plan and Elevation
- Cable Installation Details
- Grounding and Bonding
- Lighting Schedules
- Lighting / Outlets Plan and Elevation
- Exterior Lighting / Outlets
- Lightning Protection
- Load Centre Schedules
- Fire Alarm Riser
- Security System
- Network / Communications / Server Room / AV
- Control Panel Front and Interior Layouts
- Control Schematics
- Instrumentation Loops

Engineering Studies

Arc Flash Hazard Assessment

- Assess Arch Flash Energy levels and establish PPE requirements
- Comprehensive or short term studies
- Comprehensive studies update Single Line Diagrams, assess Breaker Trip Coordination and equipment Fault Ratings
- Short term studies review specific plant areas and assess local hazards

Arc Flash Applicable Standards

- Canadian Electrical Code
- Provincial Electrical Codes
- Provincial Occupational Health and Safety Acts
- CSA Z462-15
- IEEE 1584
- NFPA 70E

Electrical Fault Hazards

- Fault Hazard assessments evaluate the ability of equipment to withstand a short circuit or high current fault condition
- Hazards result from equipment not specified correctly
- Hazards result from re-purposed equipment without an assessment of rating suitability
- Plant renovations can affect Fault and Arc Flash hazards in parts of the plant that are not part of the project

Energy Management / Conservation Studies

- Power Factor studies
- Power Demand studies
- Variable Frequency Drives / Soft Starts
- LED Lighting
- High Efficiency Motors

Plant Reliability Studies

- Breaker trip coordination review
- Harmonics studies
- Load Flow studies
- Infrared Analysis

Safety Studies

- Fire Alarm System review
- Emergency STOP and Safety limits review
- Power, Communications, Control Systems

Quality Assurance

- Licensed Electrical Engineering, EGM, APEGS, APEGA
- Design-Build Professional Liability Insurance
- Equipment Manufactured in CSA/UL Certified Panel Shop