

Bringing together a comprehensive range of electrical engineering & field services

To ensure our clients electrical
infrastructure meets the highest
levels of safety, reliability & uptime.

Service Portfolio

- Power Systems Engineering
- Power Quality
- Load Monitoring
- Electrical Substation Maintenance
- Switchboard & Breaker Retrofits
- Thermal Scanning
- Custom LV - HV Installs
- Electrical Reliability Assessments
- Grounding
- Start-Up Testing



Who We Are

Enkompass Power & Energy is a National Electrical Engineering Firm

Employing Professional Engineers, Licensed Electricians and Certified Technicians and Technologists all from former equipment manufacturers. We assist our clients with Power Systems Engineering, Retrofit Applications and Maintenance. Our firm has worked in many different fields that include Data, Power Generation, Telecom, Government, Water and Waste Water, Institutional, Pharmaceutical, Paper and Pulp, Food and Dairy, Automotive, Mining and Construction. Our design and hands on experience can be custom tailored to meet our client's needs and requirements.



Reliability Study

■ Assessment/Data Centre - Enkompass engineers will review the present installation of the grounding, emergency back-up & electrical configuration to help our clients with recommendations on increasing reliability and modernization within the facility. From minimal back-up to tier 4 level redundancy. Expansion & addition of critical facilities. Our Engineers will review present configuration & make recommendations on expansion.

Arc Flash Study

■ An arc-flash hazard analysis determines the arc-flash protection boundary around electrical equipment within which a worker exposed to an arcing fault would expect to receive 2nd or higher degree burns if not adequately protected. The analysis, also determines the incident energy level at a specific working distance from equipment, and provides recommendations of the required Category of the Personal Protective Equipment (PPE) to be worn when working within the arc flash protection boundary.

Coordination Study

■ A Protective Device Coordination Analysis determines optimal settings, ratings, or types for the protective devices to ensure that only the minimum amount of your system is de-energized when a short-circuit fault occurs. A Protective System Adequacy Evaluation is performed to determine the adequacy of your protective system to protect properly your electrical distribution equipment against short-circuit faults and failures.

Short Circuit Analysis

■ A Short-circuit Analysis and Protective Device Adequacy Evaluation is performed to determine the adequacy of your interrupting electrical devices (such as circuit breakers) to interrupt and/or withstand the most severe fault duty.

Load Flow Analysis

■ Load flow analysis identifies actual usage by measurements focused on various ac voltages and the impact of various loads, to see what available capacity remains and if any benefit exists for power factor correction.

Harmonic Analysis

■ Harmonic Analysis is used to identify harmonic problems, minimize nuisance trips, design and test filters and identify potential violations of distortion limits then resolve it through mitigation solutions based on IEEE Standard 519.



■ ■ Enkompass strives to be the trusted leader in the design, sustainability & reliability of Power Systems and to provide the highest level of service to our clients.

Start Up & 3rd Party Verification

The initial start-up of an electrical system is essential regardless of size or industry. Upon installation of equipment, Enkompass personnel will perform visual, mechanical and electrical tests to ensure smooth and efficient energizing of the equipment.

Retrofit of Existing Breakers & Switchgear

Enkompass technicians can custom retrofit existing panels, switchboards and MCC's with modern interiors, modern breakers and fusible switches to help our clients modernize their electrical infrastructure.

Load & Power Quality Monitoring

Enkompass can help our clients gauge their current usage within the facility. Installation of power quality equipment allows the customer to identify any harmonic and transient concerns within the facility.

Ground Grid Design/Analysis & Testing

Ground grid design is used to come up with a safe area about commercial and industrial facilities and substations, in terms of ground potential rise, step and touch voltage based on IEEE Standard 80/81.

HV & LV Protection and Control

Our engineers will minimize the hazards to your employees and equipment, while maximizing your uptime by manipulating your protection settings using coordination, arc flash and short circuit study results.

Develop Facility Maintenance Program

Our experienced staff will review your facility and present maintenance program and provide a detailed report on creating a fully structured pro-active/preventative maintenance program.

Equipment Operating Procedures

Purchased some new equipment? Hired some new personnel? Enkompass can review manufacturer operating procedures and merge them with your site specific conditions to allow for optimal human - machine interface. Gaining confidence with hands-on experience will give facility operators peace of mind in understanding how everything works.

Sequence of Operation

As technology keeps evolving and systems become more and more complex, sequences of how interconnected equipment operates can also escape the most adept electrical personnel. Enkompass can test switching schemes, failure scenarios and electrical/mechanical safety interlocks to ensure compliance with specifications for most engineered applications.

Update Single Line

The posting of an updated electrical single line drawing and operational (emergency and standard) procedures/processes should be installed in all equipment areas. Best practices call for posting of these documents in all equipment areas to reduce the risk presented during any human intervention within a critical environment and assist with failures when they occur.

Health Care Facility Testing

Enkompass provides testing of patient care receptacles, wiring, and panels in Health Care Facilities as per CSA standard Z32.



ELECTRICAL MAINTENANCE

Breaker & Switch Maintenance

Good overall inspection and cleaning of the internal components can be achieved during a brief shutdown. Understanding the importance of contact resistance, insulation resistance, arc chute/suppressor dissipation factors, proper alignment, pressure, gap and deflection of current carrying contacts puts Enkompass in a position to be your ideal service provider for your switching equipment.

Primary & Secondary Injection Testing

Switchboard and circuit breaker protection relays are critical to safeguarding your equipment and personnel from catastrophic failures. Primary injection testing involves injecting the actual current required to operate the protective device. It can verify the proper ratio of the sensors and the wiring to the relay element reassuring you that the breaker will see the fault full scale. As primary injection testing is extremely arduous where the breaker interrupts large currents, secondary injection is the preferred method for testing when doing electrical maintenance. Using the specialized test kits specific to each breaker we can test the relay's functionality; verifying the actuator operates properly and verify the thermal memory, when activated, reduces trip times after having experienced a previous overload condition.

Transformer Oil Sampling

Various internal characteristics can be indirectly evaluated through oil sampling. Using sterile extraction syringes and containers, accurate levels of moisture, dissolved gases and other contaminants can be measured and interpreted. As your transformer ages, its components, insulation and oil can break down leading to catastrophic failure. If a trend is established early enough, life expectancy becomes visible and failures such as off line tap-changers can be repaired or replaced. Oil can be reclaimed, degasified or replaced once the problem has been identified and repaired.

Thermal Scanning

Utilizing sensitive radiometric thermal imaging cameras and software, we can detect thermal anomalies in your electrical distribution system before you suffer a catastrophic failure. Enkompass technicians use FLIR cameras and are all Level 1 and level 2 certified.

Transformer Maintenance

Transformers are the "Heart" of most industrial and commercial facilities. Enkompass offers extensive diagnostic testing and inspections to ensure the reliability and early detection of pending failures. Enkompass has a vast database of new and reconditioned transformers and components to provide emergency response and get your plant up and running as quick as possible.