

# Your Resource for Power System Performance, Reliability and Safety

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**Black & McDonald**

**Field  
Service  
Division**

# The Electrical System Of Your Building Is The Lifeline Of Your Business.

*The electrical power system controls every aspect of your organization's day-to-day operations, from enabling production to providing a comfortable office environment for employees.*

*Black & McDonald's Field Service Division is a team of highly experienced trades and technicians. We service a very diverse customer base, from large industrial plants and utilities to retail, commercial, healthcare and transportation facilities.*

*Our Predictive & Preventative Maintenance Systems (PPMS) are the most thorough the industry has to offer. All tests and inspections are performed in accordance with IEEE, NETA, CSA and ANSI requirements.*



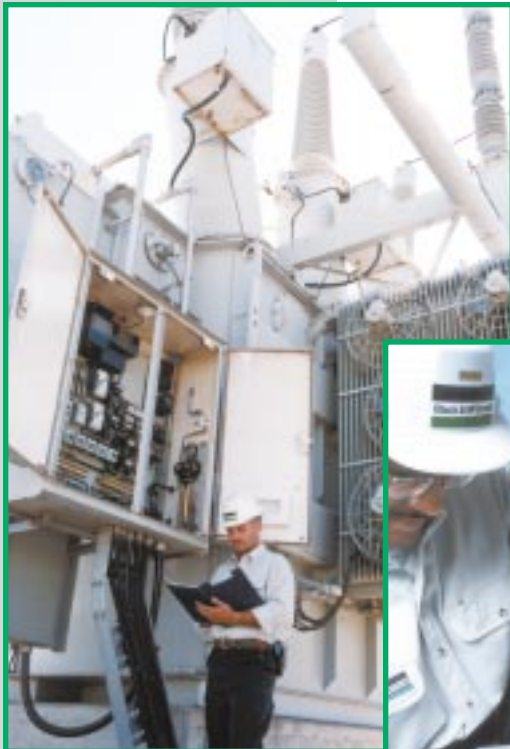
**Infrared Thermographic Inspection** is used industry wide to detect unusual heat buildup in electrical and mechanical systems. Overheating conditions are caused by loose, corroded or improper connections, poor contacts, poor insulation, overloading and unbalanced loads. Infrared inspection provides cost-effective detection of problems without power outages or interruptions to your operation.

## **Insulating Fluid Analysis**

in electrical equipment determines the condition of the oil by verifying its chemical properties. This analysis detects:

- arcing or corona
- overheating
- insulation breakdown
- poor connections

Each test reveals some characteristic of the operating condition of your power equipment. With this information, our technical staff can detect problems that require immediate attention and recommend a solution.



## **Substation and Transformer Services**

include inspection and testing of high voltage indoor/outdoor power station equipment ranging in voltage from 5kV to 500kV. Black & McDonald Field Service Division provides detailed technical analysis and recommendations to ensure peak performance and reliability. Each maintenance program is customized to suit your facility, equipment and budget needs.

**Circuit Breakers** require ongoing maintenance to ensure proper operation of all electrical, mechanical and electronic components, in accordance with manufacturer's specifications.

Circuit Breaker Services include:

- Contact rehabilitation
- Mechanical overhaul
- Conversion from manual to electronic control
- Testing and calibration



**Power Quality Services** provide a detailed analysis to identify power quality problems caused by harmonics, grounding, loading and switching transients. We provide:

- Power factor analysis
- Load surveys
- Harmonic content analysis
- Disturbance analysis



### **Engineering Support Services**

are required when new load requirements or upgrades are implemented into the existing power system. Our value added services include:

- Upgrades
- Additions
- Protective device co-ordination studies
- Grounding
- Commissioning
- Power factor correction

**24 hour emergency support services** are an integral part of every project we take on. Black & McDonald's Field Service Division will respond to unexpected equipment failure or system shutdown, whenever and wherever it occurs. Our emergency support capabilities include:

- Mobile generators
- Transformer repair
- Switchgear repair
- Circuit breaker repair
- Cable splicing and fault locating
- Total electrical recovery

# A Multi-Trade Resource Supporting Your Construction and Maintenance Needs



## Utilities

- Street highway & parking lot lighting
- Overhead line and power distribution
- Underground cabling & duct systems
- High voltage splicing & termination
- Airfield navigation & landing aids
- Substation installation



## Facilities Management & Operations

- Multi-trade asset management
- Operations & maintenance programs
- Supply, training & management of onsite staff
- Computerized maintenance management software
- Performance audits

## Projects

- Electrical, mechanical & communications
- ICI facility & process installations
- HVAC & energy retrofits
- PLC & instrumentation
- Millwrighting & rigging



## Service

- Heating
- Ventilation
- Air conditioning
- Refrigeration
- Plumbing
- Controls

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the nation –  
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nearby.**

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Hamilton  
London  
Winnipeg  
Edmonton  
Calgary  
Vancouver

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*A Tradition of Quality... since 1921*

**Black & McDonald**

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Service  
Division**

