

LEVEL 4 - BREAKER INJECTION TESTING

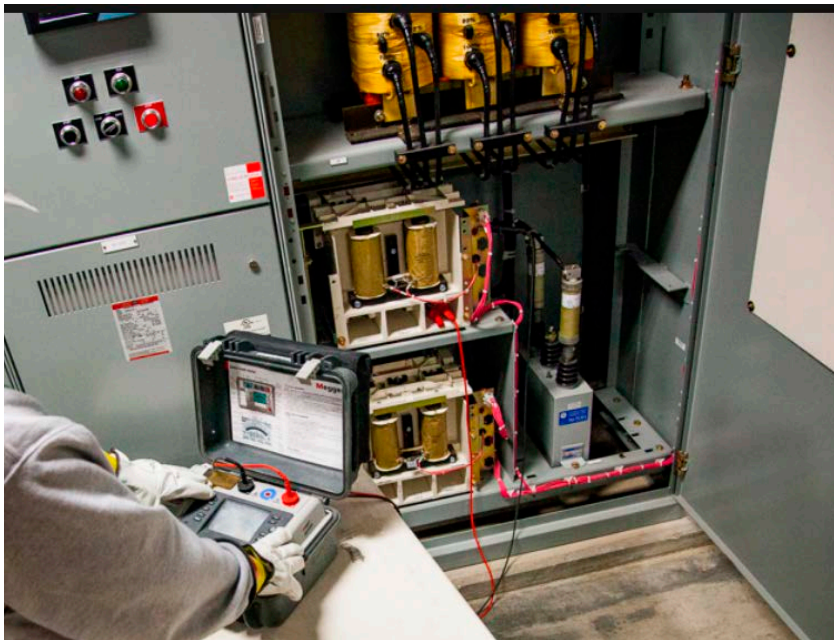
WHAT IS IT?

Primary current injection testing is utilized in high current/high voltage scenarios found at large electrical installations such as substations. A large current (between 100A and 20,000A depending on system specifications and test requirements) is injected directly on the primary side of the electrical system such as a circuit breaker.

The objective of the test is to identify how the system operates under various levels of current load.

Primary injection testing is suitable for testing over-current trip relays attached to a circuit breaker. By injecting the current into the system we can measure if the breaker will trip or fail, and how long the current is live before the circuit is broken.

Circuit breakers can go long periods of time without activation, and failure at the moment of activation can cause catastrophic damage to the electrical system. Circuit breaker testing with primary current injection on a breaker that has not triggered in some time is the best way to recreate the real operating conditions of a current spike.



WHY TEST BREAKERS?

Even though circuit breakers are comparatively reliable when compared to other electrical devices, circuit breaker failures occur. When a breaker fails to operate, the resulting damage can be very serious in terms of both personnel injury and equipment damage.

It's clear that circuit breakers must be tested and maintained to ensure proper operation during these faults.

You Can Count on the Sprint Electrical Team: We perform regular and ongoing preventive maintenance. It's important to keep your facility from experiencing a costly incident.

Optimize the Life of your Electrical System



Breaker Testing, an integral part of safety

There are three basic maintenance strategies that are typically applied to circuit breakers:


Corrective Maintenance – With this strategy, maintenance is performed as the breaker fails to operate. Although considered short - sighted by most maintenance professionals, this is a prevalent maintenance philosophy in most medium to small industrials. Justifying the performance of preventive maintenance is a comparative exercise which typically involves comparing short - term savings in maintenance costs to potential repair costs and production losses. The unfortunate result in applying this maintenance strategy is that there may be inoperable circuit breakers in the electrical system. When older circuit breakers are included in the electrical system, there is a very high probability that some of the breakers are inoperable.

Time Interval Based Maintenance – With this strategy, maintenance activities are performed at a predetermined frequency, regardless of the conditions under which a circuit breaker operates. If this method is applied too strictly, however, it may lead to excessive work efforts and costs.

Condition Based Maintenance – With this strategy, the condition of a circuit breaker is evaluated through maintenance testing and inspection. The results, supplemented with statistical data and cumulative experience, are then used for maintenance planning.

Sprint can provide tests twice a year, once a year or more depending upon the type, location, and importance of the equipment.

The Sprint Electrical Team will supply highly-trained technicians to perform Megger Insulation Testing to ensure all components are in proper working order and there are no apparent code violations, as well as hazardous conditions.

Sprint Electrical Service Preventive Maintenance Program			
Level 4	INCLUDES LEVEL 1 + 2 + 3	+	Breaker Injection Testing
Level 3	INCLUDES LEVEL 1 + 2	+	Megger Insulation Testing
Level 2	INCLUDES LEVEL 1	+	Building Power Maintenance
Level 1	Infrared Thermography		 on-site. on-target. on-time.