NATL FIELD SERVICES™

AN IPS COMPANY

- + Importance
- + Recommended
- + Accurate
- + Fast
- + Practical
- + Cost Effective
- + Versatile
- + Results
- + Benefits

Reliability. Delivered.

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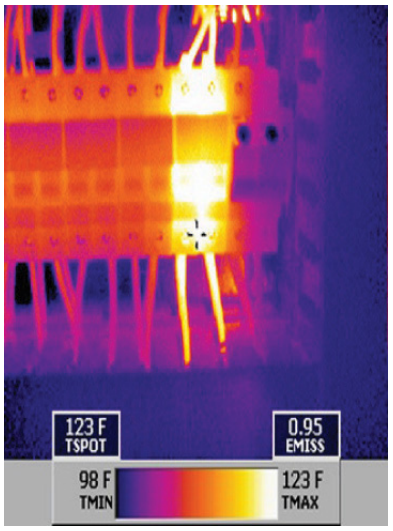


Infrared Scanning

Identify the Hotspots

Importance

Switchgear failures can be prevented with proper maintenance. When switchgear malfunctions the consequences are often catastrophic. Damage to the switchgear itself can be extremely expensive, but that pales in comparison to corollary damage and the potential hazards to people. Thus, implementing effective switchgear testing, inspection, and maintenance programs is essential. Infrared inspection is part of a complete condition-based maintenance program that is a proactive and predictive approach to protecting the life blood of your plant.

Recommended

Most insurance companies recommend that a routine infrared inspection be performed annually on a plant's electrical switchgear. Guidelines currently provided by the NFPA 70B recommend a periodic infrared (IR) survey as part of regular inspection routines. Specifically, it states that "routine infrared inspections of energized electrical systems should be performed annually prior to shutdown. More frequent infrared inspections, for example, quarterly or semiannually, should be performed where warranted by loss experience, installation of new electrical equipment or changes in enviornmental, operational, or load conditions.
National Fire Protection Association manual 70B (NFPA 70B), title "Recommended Practice for Electrical Equipment Maintenance," is available through a variety of sources.CONT

Infrared Scanning | Identify the Hotspots...

Accurate

This technique allows you to identify specific problem areas with a high resolution thermal image. The equipment can detect a temperature differential of +1 degree celcius.

Fast

The inspection is performed using real-time thermal imaging, which allows the operator to scan many pieces of equipment in one day.

Practical

There is no physical contact between the equipment and infrared camera. There are two simple requirements: The enclosures must be open. This provides a direct line of sight to the equipment being scanned. Second, the equipment must be carrying a load current during inspection.

Cost Effective

We can detect abnormal heat rises while your equipment is still operating, eliminating costly downtime.

Versatile

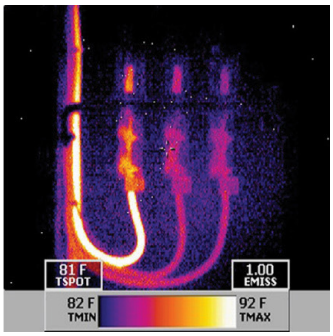
Equipment routinely tested by this method includes overhead transmission lines, substation transformers, capacitor banks, switches, fuses, circuit breakers, bus, motors, motor control centers, etc.

Results

The results of the infrared scan are presented in a comprehensive report that includes digitized photographs and thermographs, recommendations for correction or repair, and delivered priored to scheduled maintenance shutdowns.

Benefits

The infrared is preformed by a certified thermographer experienced in differentiating between normal operation and excessive thermal rise in electrical equipment. Another benefit is that the survey does not require a shutdown of any kind. By having the inspection done, you can schedule your repair and replacement rather than having to react in a time of crisis. It significantlyextends the life of your equipment. But more importantly it contributes to a significant return on your investment of maintenance dollars. NAT'L



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