

Infrared Services

Predictive Technologies

Infrared testing (IR) is a useful, practical tool for identifying defective components and other conditions that could result in a fire or electrical breakdown. Typically, traditional maintenance activities do not uncover these types of problems and most go undetected until there is an operating failure. Such failures can cause extensive damage resulting in significant business interruption and financial losses.

Recommended by ANSI/NFPA 70B Electrical Equipment Maintenance Standard and most insurance companies, annual infrared inspections can identify potential problems before an incident or failure occurs, avoiding costly unscheduled downtime and business interruption. When included as part of a planned maintenance program, it allows you to identify and deal with emerging problems early enough for maintenance to be performed, reducing emergency repair and maintenance costs, improving overall system reliability, and extending the life of the equipment

Benefits

- Improves power system reliability
- Eliminates unplanned downtime by detecting problems prior to an unplanned outage
- Reduces emergency repairs and maintenance costs and extends the life of the equipment



Detect trouble spots while equipment remains energized, allowing you to identify issues and take action before an unplanned outage occurs

Most electrical equipment generates heat during normal operations. Usually, this heat is safely dissipated on its own. However, problems can develop when components generate excessive heat due to corrosion, loose connections, or overload. Infrared Inspection identifies these abnormal thermal rises in electrical and mechanical equipment before an unplanned outage occurs.

Equipment and components routinely tested by infrared inspection include:

- Substation Transformers
- Capacitor Banks
- Switches
- Fuses
- Circuit Breakers
- Busbars
- Cable Splicing
- Motors
- Motor Control Centers (MCC)



Online Testing

Infrared Inspections are performed while your system is energized and operating, avoiding any disruption of operations. Unlike many predictive maintenance tests, infrared inspections do not require physical contact with the equipment. Two simple requirements are necessary for testing. Enclosures must be open, allowing equipment to be in a direct line of sight (if infrared window/port is unavailable) and equipment must carry a load current during inspection.

Non-intrusive Testing

Unlike many predictive maintenance tests, infrared inspection does not require physical contact with the equipment. Two simple requirements are necessary for testing:

- Enclosures must be open allowing equipment to be in a direct line of sight
- Equipment must carry a load current during inspection

Performed by Professionals

Two factors can significantly alter the accuracy of an infrared survey: 1) the testing equipment and 2) the thermographer performing the test. For these reasons, it is important to choose a reputable company with the necessary qualifications, equipment and experience to perform an accurate Infrared Inspection. HVM has more than 35 years of testing experience. Combining the best technicians with the most up-to-date, well maintained equipment enables HVM to detect even the smallest temperature differential quickly and efficiently.

Report of Findings

As a critical part of a complete predictive or condition-based maintenance program, Infrared Inspection findings are carefully documented in a comprehensive electronic and/or paper report that includes:

- High resolution color digitized photographs and thermograms
- Recommendations for correction or repair
- Timely delivery of results prior to scheduled maintenance shutdown

Benefits

Early detection from infrared testing can avoid unnecessary operational, safety, and financial losses. Additional benefits:

- Enables planned maintenance rather than emergency repairs
- Conducted while equipment is energized and operating, avoiding disruption of operations
- Eliminates potentially catastrophic losses due to equipment failures from electrical fires or other serious results when problems are not found with traditional maintenance methods
- Extends equipment lifecycle through early diagnosis and subsequent repair
- Promotes safety in the workplace since personnel are not exposed to faulty equipment
- Reduces equipment failures, protecting your capital equipment investment

Ordering Information

To learn more about this service and other High Voltage Maintenance solutions, please contact your local High Voltage Maintenance sales representative office.