

Power Line Infrared Thermography Inspection

Improve Safety, Electrical Service and Energy Use



Power line & utility infrared inspection services are designed to locate potential electrical problems and assist utilities with eliminating failures in transmission, distribution and substation systems. The use of aerial thermography cameras for power line infrared inspection provides the fastest and most accurate method of survey.

Our aerial thermographers are certified technicians, trained to interpret the complex data compiled during a typical survey. Our established experience along with enhanced high resolution equipment allows us to locate potential problems quickly and accurately.

WORK PROCESS & EQUIPMENT

Our infrared technicians and aerial mounted camera system are deployed using a rented helicopter local to your area in order to minimize costs. The flight path is determined through consultation and based on your needs.

We use the FLIR Systems 2000 series infrared camera, which is remotely controlled and has a thermal resolution of 1/10°F, and a pictorial resolution of 525 lines per frame (560 CCIR) with 352 elements per line (428 CCIR). It utilizes a Mercury, Cadmium, Telluride (HgDcTe) 2x4 TDI detector array with an IR Special bandwidth of 8 - 12 microns. This camera renders an image of an object's thermal emissions in shades of black to white . . . white representing hot and black depicting cold. The data is then digitally recorded for processing. The FLIR 2000, mounted externally on the helicopter, is remotely controlled by the thermographer inside the cabin. LCRS rate stabilization assists the Thermographer in manual target tracking by dampening the effects of aircraft motion.

Advantages of using our aerial mounted infrared camera include:

- Increased safety due to further distance from the lines than the typical hand held camera inspection.
- Optical zoom lens allows us to acquire high resolution close up images (not just a blown up digital image)
- Mobility of the mounted unit and zoom lens means we fly faster than the typical infrared survey out of the window. Flight speeds average 45 knots and this save you valuable helicopter dollars!!
- We find more problems than typical hand held IR surveys because we have over 10,000 hours of aerial power line inspection experience, certified thermographers and right equipment for the job.

DELIVERABLES

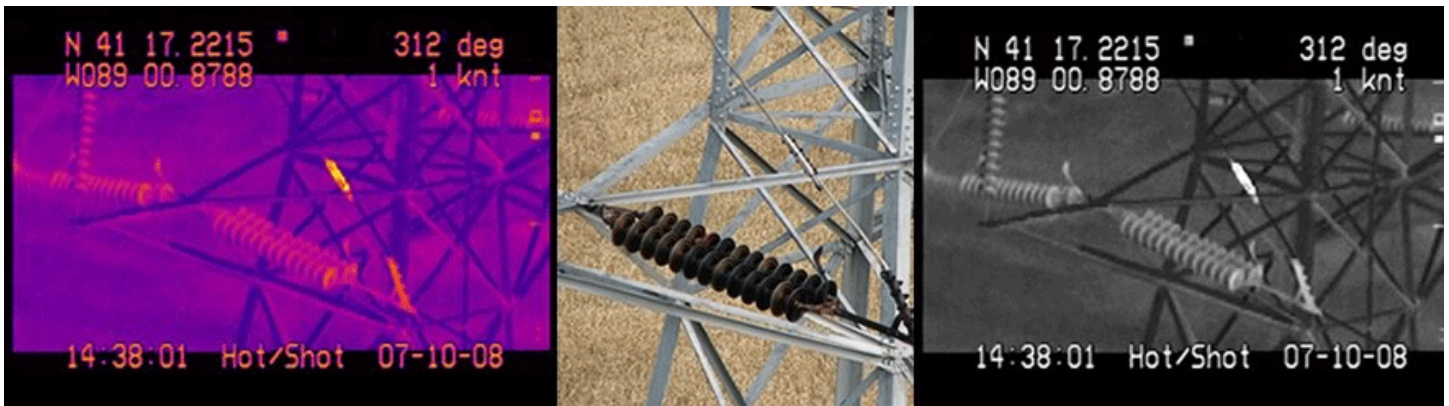
Our infrared (thermal) reports are concise and to the point, making anomaly location easy to determine and facilitate repairs. Your report will include:

A detailed easy-to-read inspection report including:

- a written narrative of the survey
- a report form for every anomaly detected during the inspection
- Infrared DVD video of the entire inspection
- Hard copy and electronic version of the entire report

A report sheet accompanies each problem which includes:

- digital visible light photograph, color thermogram and black / white thermogram images
- complete temperature analysis of the anomaly utilizing ambient temperature or conductor temperature for comparison
- GPS locations of the anomalies
- infrared data



Above - a bolted clamp connection at the jumper. Analysis revealed a temperature rise of 52°C above conductor from Hot Shots IR

About Us



Martin Technical provides practical services for making facilities better, safer and more efficient. Our expert staff combines their real world work experiences of the past with today's technologies and best practices to provide our customers with the solutions and knowledge they need to maximize their operations and keep safe doing it. And because all our experts have in-field experience, we understand the difference between theory and application and are able to translate today's complex problems into simple solutions that can be implemented tomorrow.

About Our Customers

Our customers represent a broad spectrum, big and small, and we have provided services for virtually every type of company, plant or facility, including:

- Manufacturing Plants
- Schools & Universities
- Data & Service Centers
- Airports
- Government & Military
- Hospitals
- R&D Facilities
- Public Buildings
- Energy & Utility Plants
- Water & Waste Water
- Hotel & Hospitality
- Commercial Buildings

Liability / Insurance

We carry the following insurance policies:

- General Liability - \$2 Million per occurrence / \$4 Million aggregate policy
- Professional Liability - \$1 Million policy

In addition, any outside engineers used on projects are required to have their own individual professional liability and general liability insurance.



Products & Services

We specialize in making plants and facilities better, safer and more efficient by providing the following services and products:

Electrical Studies & Testing

- Arc Flash Analysis & Labeling
- Short Circuit Study
- Protective Device & Coordination Study
- Power Quality Audit
- Motor Load Studies
- Infrared Inspection

Electrical Safety

- Electrical Safety Program Development
- Electrical Safety Audit
- Electrical Safety Training
- Qualified Person / Electrical Worker Certification
- Lockout / Tagout Programs
- Infrared Inspections

Energy Management

- Energy Audits
- Boiler, Compressor & HVAC Audits
- Energy Management Training

Electrical Maintenance Training

- Electrical maintenance training topics are available through our training partners.