



CASE STUDY THERMAL IMAGING

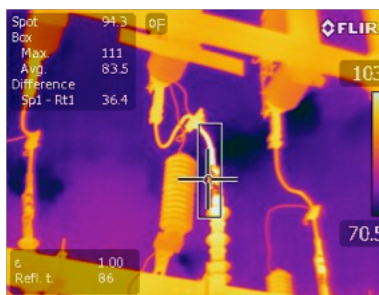
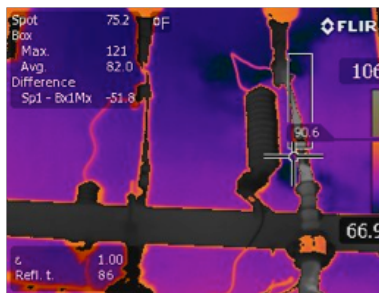
**FINDING ISSUES ON TERMINATIONS
BEFORE THEY FAIL MEANS:
HAPPY CUSTOMERS, LOWER COST AND
ENHANCED RELIABILITY FOR YOUR SYSTEM**

SUMMARY

Electric power utilities are faced with an aging infrastructure, increasing risk of blackouts and brownouts and costly unplanned maintenance. They are constantly looking for ways to address the reliability of electric power delivery while reducing costs. Thermal Imaging is able to do both.

Thermal imaging has become a vital tool to assess and inspect feeder lines without de-energizing the cable. Impending faults can be found before they become large remediation projects.

One of our Supervisors found a temperature differential on two sets of feeder terminations at a substation of a Florida utility. Because the situation was discovered before the feeder failed, the problem could be fixed without causing a power outage.



THE SITUATION

One of our Infratech Supervisors recently went through the certification program from FLIR for Thermal Imaging. The program's assessments included testing lines to practice reading the results and images that the equipment recorded.

He used the thermal imaging equipment on one of Infratech's customer's systems, and found a temperature differential between two feeder terminations of 20.9°F. He knew that he not only had the perfect example for his thermography coursework, but also that the utility needed to be informed immediately.

The customer stated that the images clearly showed a "hot spot" at the terminator connection, and this overheating problem came from the bolts being over torqued beyond the 40ft lbs as specified in the Distribution Construction Standards manual.

THE SOLUTION

The issue could be resolved prior to a failure by switching the section out (redistributing load) and replacing the terminators without a single moment of loss of service to any customers. The utility's customers were completely unaware of the repair. Our Supervisor received accolades from the instructor, but more importantly he and the utility got a first class demonstration of the benefits of thermal imaging.

THE RESULT

This non-contact inspection method can identify many issues, from loose connections to load imbalances and even corrosion (which also leads to temperature differences). It allows appropriate action to be taken before a major failure occurs. Thanks to this technology, our client's feeders could be scanned and the results visualized and analyzed quickly and accurately. The utility saved approximately 70% in repair cost, needed fewer resources to deal with the issue and didn't get a single complaint call from a customer. As part of a preventive maintenance schedule, thermal imaging increases confidence in the equipment, avoids power interruptions and decreases the potential for safety hazards.

**TO FIND OUT MORE ABOUT SOLUTIONS WE HAVE FOUND FOR COMPLEX CHALLENGES AND CRITICAL SAFETY ISSUES,
CALL 770-792-8700.**