

INTRODUCTION

Shut downs caused by catastrophic electrical failures cost industry millions of pounds each year. One of the easiest and most cost-effective methods of reducing the probability of unexpected failure is the use of infrared thermography as a predictive maintenance tool.

This technique can be used on any electrical system - from printed circuit boards to National Grid Power Transmission Lines! Electrical faults usually develop over a relatively long period of time, often as much as five years. During this time the electrical resistance of the offending item - whether it is a switch, a fuse or a connection - will slowly increase, leading to a corresponding increase in temperature until it fails. At best, this will lead to an unplanned shutdown and the resulting loss in production - at worst, it can present a serious fire risk.

HOW THERMOGRAPHY HELPS

Infrared Thermography, otherwise known as thermal imaging, is a quick and efficient predictive maintenance tool. This process involves an inspection of electrical plant using a sophisticated, and very sensitive, infrared camera. This is typically performed on an annual basis, and whilst the plant is 'on-line'. In fact, the survey can normally be carried out without even opening any cabinets.

During the course of the survey, any items of plant that have a higher temperature than normal are noted, and the actual temperatures are recorded for future reference. Thermograms (infrared photographs) are also taken for inclusion in the subsequent written report. Over a period of time, the information obtained during the survey builds up into a valuable database of plant condition

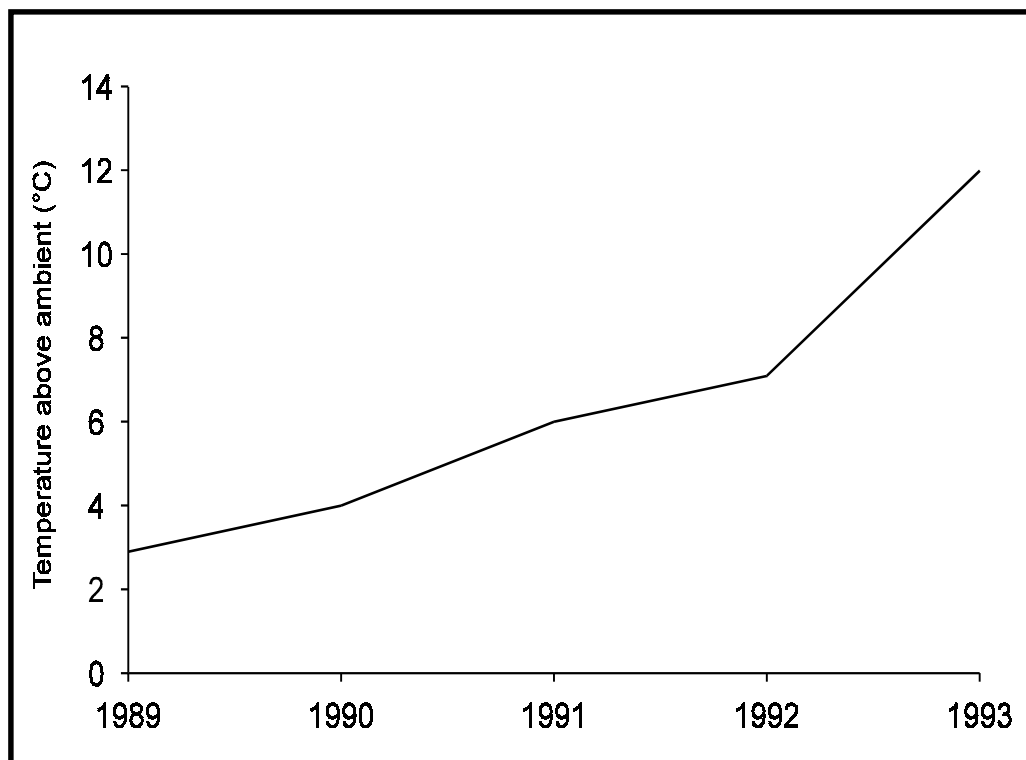


Figure 1 - Graph showing temperature rise of a circuit breaker over time.

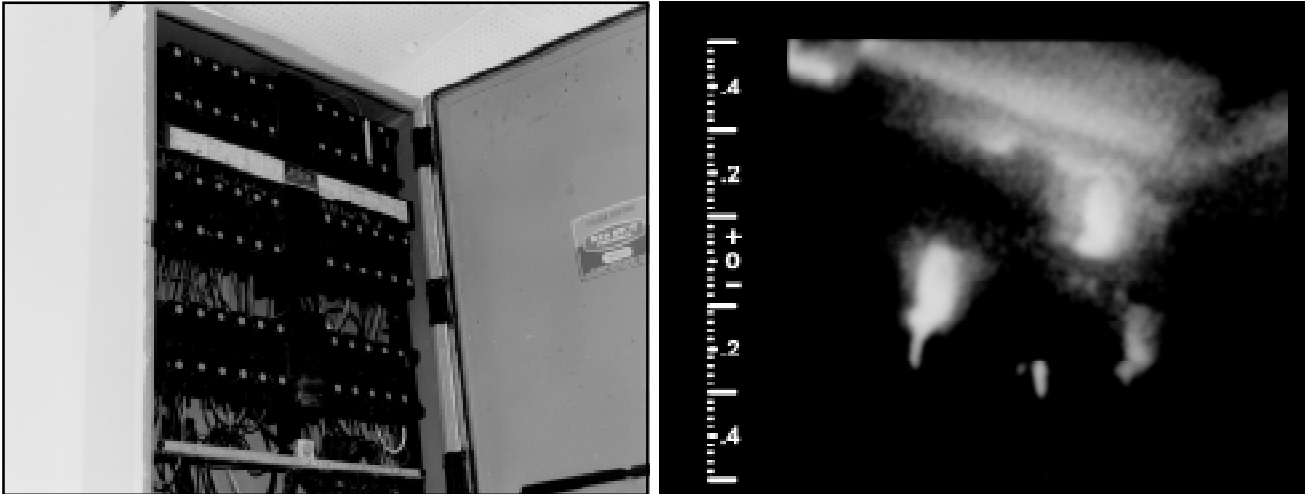


Figure 2 - Thermogram and conventional photograph showing two loose connections on a distribution board.



Figure 3 - Thermogram of overheating circuit breaker bushing.

Infratech offer a comprehensive survey service. On completion of the survey we present our customers with a comprehensive report tailored to suit their requirements. This may include the following:

- 1 Monochrome thermograms (as shown in Figure 3)
- 1 Colour thermograms
- 1 35mm photographs of defects
- 1 Video recording of all switchgear thermograms
- 1 Graphs showing temperature rise over time

Our surveys are priced on an individual basis and are highly cost-effective - for example a typical 10000m² factory can cost as little as £500. The potential cost savings are enormous - consider how much a single day of lost production would cost!

For more information contact:

Infratech
 The Old Forge
 Marston Magna
 Yeovil
 Somerset
 BA22 8BZ

Tel: (01935) 850273
 Fax: (01935) 850029

