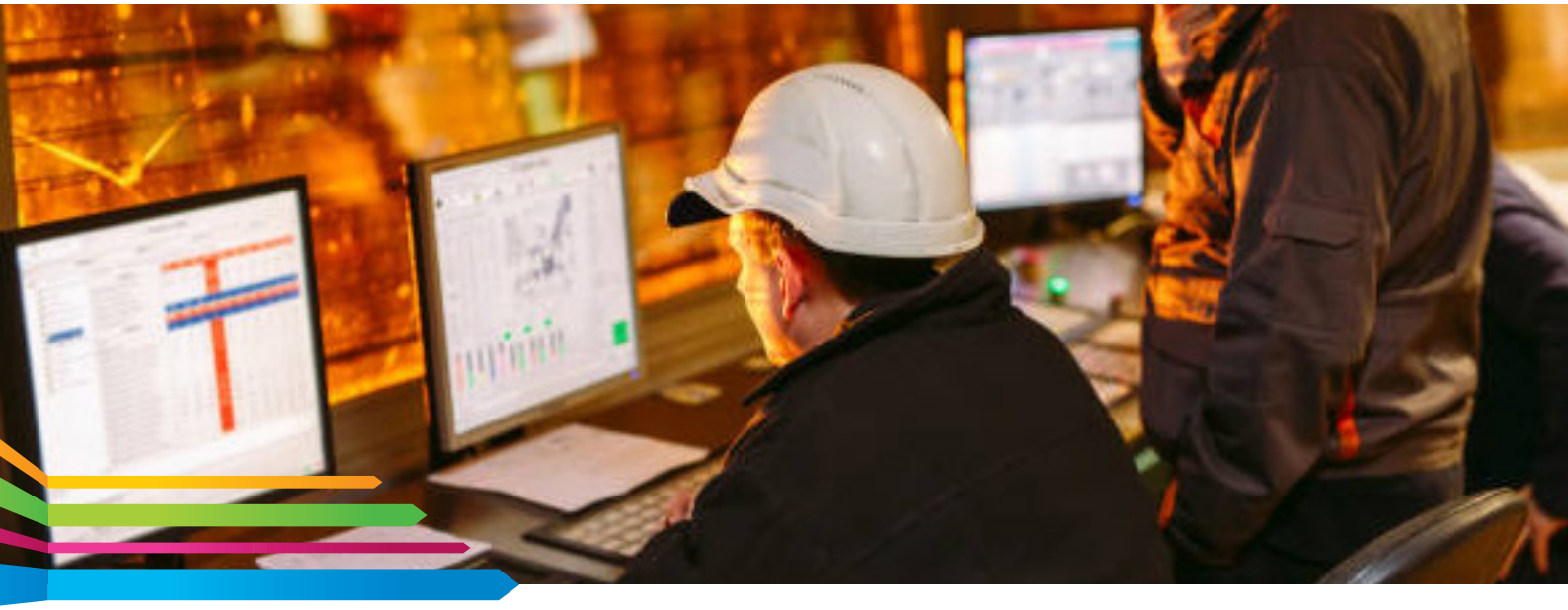


Electrical Maintenance

How does this affect your company?

Electricity is one of the most important tools in our everyday lives, both domestically and in the workplace. However, it is also one of the most lethal and is statistically (as detailed below) the most likely cause of large fires.

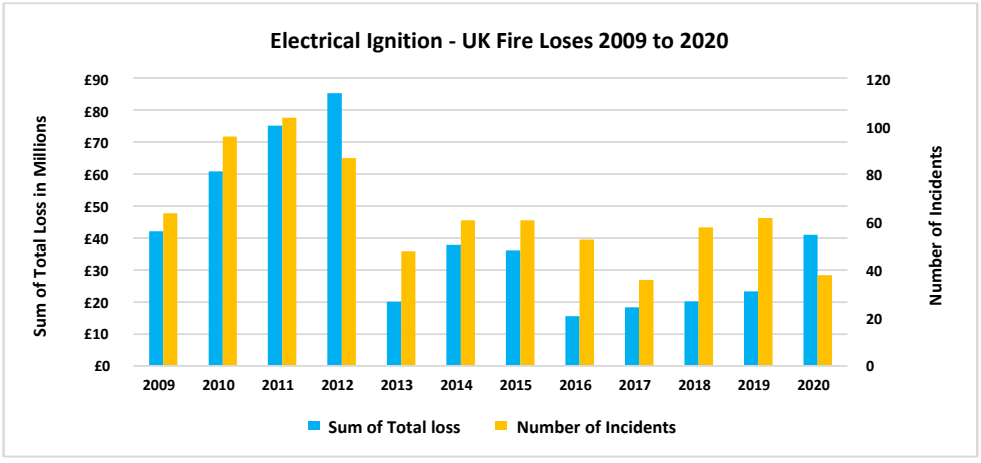
The key to managing electricity supplies and electrical equipment is ensuring that they are correctly installed, safeguarded to the recommended rating and, most importantly, maintained on a regular basis.

There are many different codes and legislation used around Europe; they mandate rudimentary levels of protection for electrical systems and equipment. These tend to be focused more on installation standards than ongoing maintenance and are written as a minimum standard and do not take into account usage or criticality of systems/equipment.

Why does this affect your company?

Whether electrical equipment is being used for lighting, running machinery, operating a portable appliance or charging forklift trucks, its protection and maintenance must be managed. It is important not to waste valuable resources when carrying out periodic inspections and maintenance, so time should be spent evaluating each installation, machine or appliance and producing a schedule that reflects usage, importance and legislative requirements.

There are also useful tools that can help in identifying potential issues or hot spots in large systems. This technology uses infrared scanning of electrical distribution centres, panels and connections around critical equipment, even if it is inaccessible.



Note: This data published with the permission of the FPA

What could happen to your company if you don't take these steps?

Electrical ignition is the most common cause of industrial fires today. For example, adding additional electrical equipment without completing the necessary load studies, failing to repair or replace damaged electrical equipment or keeping electrical equipment in use beyond its recommended service life will all increase the chances of electrical faults and fires at your facility. These could lead to significant fire damage and resulting business interruption.

This document highlights the basic requirements needed to produce an effective electrical maintenance programme, and emphasises the need for companies to carry out a well balanced programme based on manufacturers' recommendations, legislative requirements and your own standards. The consequences of a fire, especially in critical equipment, could prove disastrous for any business.

What should your company do / have?

Portable appliances

Should be inspected and tested by a competent person at least every twelve months. Also any domestic electrical appliances brought in from an employee's home, should be inspected and tested before use in the workplace.

Reporting faults

When a piece of electrical equipment fails or is intermittently faulty, it is essential that it is reported immediately and the item is repaired or disposed of in a timely manner.

Maintenance programmes

A well managed preventative maintenance programme will improve the overall running and efficiency of machines and help to avoid breakdowns, which will ultimately save money. One of the most popular modern methods for large scale evaluation could be to initiate an Infrared Thermal Imaging programme.

Risk assess

Consider loss prevention issues when designing the programmes. This could include special focus on critical machinery (process bottlenecks), or hazardous process machinery that could cause a safety issue or a fire if they fail catastrophically.

Certified

Only install certified electrical equipment. Also ensure all circuits are certified to the current European standards when they are new or when they are modified.

Poor housekeeping

Do not accept poor housekeeping around electrical cabinets, motors and machinery. Often when electrical equipment fails it generates heat and sometimes sparks,which can easily ignite combustible waste materials and potentially cause a much larger fire.

Manufacturers' recommended maintenance intervals

When compiling the maintenance schedules for electrical equipment it is essential to comply with the manufacturers' recommendations on maintenance intervals.

Evaluate

Evaluate the usage and importance for all electrical equipment when considering the periodic maintenance schedules.

For further information on Electrical Maintenance please contact your local Tokio Marine HCC office or contact:

Risk Engineering Coordinator
Tokio Marine HCC
1 Aldgate
London
EC3N 1RE
resources@tmhcc.com

References

- Maintaining Portable Electrical Equipment (UK, HSE 2013)
- BS 7671: Requirement for Electrical Installations: IEE Wiring Regulations
- The Electrical Equipment (Safety) Regulations 2016
- FM Data Sheet 5-20 – Electrical Testing (including Infrared Thermal Imaging Systems