The Electricity AT Work Regulations

# What is the EAWR?

The Electricity at Work Regulations 1989 (amended 20115 applies to employers, employees and the self-employed and requires precautions to be taken against the risk of death or personal injury from electricity in work activities.

# What are the key points?

The Electricity at Work Regulations say that

* there should be standards for electrical equipment concerning electrical load, robustness of build, safety of connection etc
* Electrical devices and wires should be insulated to appropriate standards
* Suitable protection should be in place eg fuses, RCDs
* It must be possible to isolate the devices by switching off a single switch.
* Electrical equipment must be operated in an environment with sufficient light and space for its safe usage.

# Isolation and cut-off

Electrical services to practical work areas including technical workshops and science labs should be fitted with localized switching for isolation and emergency cut-off.

**Isolation**—means being able to switch off all the power to allow eg maintenance work

**Emergency cut-off** is different in that it needs to happen much faster to cut off the supply when someone gets an electrical shock, or is at danger of being shocked.

Critical circuits like those for fume cupboards or other safety equipment, should not be switched off by the emergency cut-off

# Visual Inspection

Each user should carry out a brief visual inspection before using any electrical equipment.

This need not be complicated. The used should look out for:

* Damaged casing
* Loose connections
* Bare wires
* Worn or damaged cables and connectors

# Portable Appliance Testing

The EAWR simply requires an employer to ensure that electrical equipment is maintained in order to prevent danger. It does not say how this should be done or how often.

In most case though this is carried out by a trained person (sometimes an external organization) who will carry out a thorough examination at regular intervals. While this is commonly done annually, this does not need to be the case. The interval is best judged by a risk assessment but guidance on frequency is issued by the HSE.

# Electrical Equipment in Laboratories

Electrical equipment for use in a laboratory should be suitable for the conditions and for the use to which it is being put.

Sometimes domestic equipment might be suitable but not always—for instance a fridge to store flammable substances should have non-sparking fittings.

Another problem with domestic equipment is that it may not be robust enough for work usage and may get damaged easily—possibly creating dangers such as exposing live wires.