

## **Electrical Safety and optimal power arrangements in media facilities; *one day course***

Electrical safety is one thing no broadcast engineer can ignore; you may well be the most qualified person on site and therefore it's your responsibility.

BS 7671 is the national standard to which all electrical installations should conform. The 18th Edition IET Wiring Regulations contains important new information for all electrical installers and engineers.

### ***Typical configurations, remote controlled mains etc***

How mains supplies are configured in professional media facilities including options for remote data centre cabinets for power load monitoring and switching.

### ***The differences between single and three phase supplies***

Facilities engineers need to be aware of the differences between domestic 100A single-phase supplies and the three-phase supplies common in professional environments with special consideration to three-phase motors used in lifts and air-conditioning. Balancing phases and safety considerations will be included.

### ***Class-1 and double-insulated equipment***

A prerequisite to understanding earthing systems. Some examples of breakdown of isolation in double-insulated power supplies and how that causes problems in balanced audio installations.

### ***The importance of a segregated technical earth and the problems of induced hum***

Although most professional facilities are now network/digital environments the importance of earth-loop current and the trouble it can cause an engineer are considered and how to avoid them by proper configuration.

### ***The impact of inductive-load equipment in facilities***

Most of the equipment in modern machine rooms has a switch-mode power supply, spinning hard disks and other components that mean it is probably an inductive load rather than the resistive load of lighting and heaters etc.

We shall go over the considerations for machine room spur circuits and how to avoid unnecessary loss of supply by correctly specified MCBs

### ***How to calculate power and heat loads***

One of the first questions asked in the design of a new MCR is “how much power” and “how much heat”? We shall go over practical calculation of these including considerations of power-factor.

### ***The 18th Edition of the IET regulations and your legal responsibilities***

The regulations speak about “skilled or instructed persons”; if you carry the title **engineer** you have that responsibility – with that in mind you should be certain that should the worst happen you not only have done the right thing by your colleagues and customers but you have documented what steps were taken to avoid danger.