In the event of an emergency, the person responsible for a building must ensure that people can safely leave the premises when the mains power fail. Emergency escape lighting ensures that the lighting is provided promptly, automatically and for a suitable time when the normal power supply to the lighting fails to ensure that people within the building can evacuate safely.

**System design**

When designing your emergency lighting system, it is important to consider the most appropriate source of illumination. It is equally important to understand the need and degrees of separation between your facilities’ lighting and what is needed in an emergency. While discharge lamps may be used for the normal lighting, they are unlikely to be the best or most economic source for the lower light levels and are inappropriate for emergency lighting.

Similarly, the system used to drive the emergency lighting should be understood and separated from any other form of additional power supply for your main facility lighting. This, in a sporting analogy, equates to substituting a forward team player for another forward, when what you really need is your strongest defender.

Generally, fluorescent or LED emergency luminaires offer a better design option as they can be matched to the lighting requirement of your facility, often only needing a third of the size of inverter to drive them in the event of an emergency. As they are on a separate system they can be tested independently and can provide secure re-strike protection if there is a supply interruption.

**Central power supply systems**

Most standards specify the general requirements for central power supply systems. If UPS (Uninterruptable Power Supply) units are being considered in this role, it should be remembered that they were originally designed to back up computers for short periods of time and they may need to be specially modified for emergency use. Central Battery Systems however, are designed specifically for this purpose and provide the strongest defence when you really need it. The system should also be capable of clearing any associated fault without shutting down or rupturing its own output fuse. It should recover to normal output automatically within 5 s of the fault being cleared. Most UPS systems sense distribution short circuit faults and shut down to zero volts output to protect themselves. This is no use in emergency lighting; you need the unit to ‘Blow’ the Fuse/MCB to isolate the faulty section of the distribution circuit and to continue to power the rest of the emergency lighting circuit. This typically requires a non standard, up rating or over sizing of the UPS. In short you are using the wrong player for the wrong game and it will cost you considerably more to adapt it to cope.
Due to the constant active standby nature of many UPS systems, the inverter is constantly running and dissipating heat. Adequate ventilation must also be installed to remove the wasted latent heat being generated. This has the disadvantage of increasing the facility carbon footprint and the running cost. True emergency lighting systems operate in a passive stand-by mode with the inverter only running during power failure situation, eliminating the wasted energy, minimising component stress and lowering running cost.

Modular designed emergency lighting systems utilise a common range of components across the full series of available equipment sizes. This creates the benefit of reduced spares requirement. As well as the potential cost savings of minimal equipment spares, the maintenance knowledge base is de-skilled and does not require a dedicated Electronics Technician or any specialised testing equipment/lap-top computers to perform day to day maintenance or equipment repairs.

Cooper Safety has become the leading Emergency Lighting provider for large projects and can assist you in designing and selecting the right Central Battery System, giving you the highest level of protection whilst meeting all of your needs and local legislation.

Protect yourself, protect your occupants and choose your players well.