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Engineering Note 3 (cont.) - Emergency Lighting Regulations

Light levels

One of the most significant changes to escape route lighting requirements relates to the minimum light level. The proposed new European standard defines 1 lux on the centre line as the absolute minimum. However, it is proposed that the existing BS5266 level of 0.2 lux may continue to be permitted on permanently unobstructed escape routes. This has yet to be agreed by interested parties in the UK.

There are a number of options open to the contractor for achieving the proposed minimum standard. A simple solution is to in-fill, effectively reducing the space distance between the luminaires. This is cost-effective, though may be considered aesthetically unappealing by interior designers.

A second option is to remove the existing luminaires and replace them with appropriately spaced higher output luminaires. A third option is to convert mains luminaires to operate as emergency lighting, using either integral or remote conversion kits depending on the type of luminaire.

For anti-panic area lighting, the minimum lighting level is now 0.5 lux and procedures for calculating this level, both for design and verification, have been greatly simplified in the proposed standard. Currently, 16 verification measures must be taken, the proposed standard requires only one.

The Workplace Directive now includes a wholly new category - High Risk Task Areas. This new category includes such items as acid baths, moving machinery, control rooms for dangerous processes and restricted escape routes i.e. turnstiles.

These areas require illumination equivalent to 10% of normal lighting or 15 lux, whichever is greater, coming into effect within 0.25 seconds of normal supply failure. To comply with this, contractors will probably see a maintained system as the only effective option as the lamps in luminaires are already running, and any sort of start-up delay is avoided.

Duration time

The minimum general escape duration time required in offices, factories and non-residential schools and colleges is one hour. However, in the premises where evacuation does not take place in the event of mains failure, or lighting may be dimmed, equipment must provide extended duration times. In the sleeping areas, such as hotels and hospitals, and for railways, underground stations and airports, plus enclosed shopping malls three hours duration is mandatory. It may well be that this extended duration is recommended for almost all premises.

An extended duration system is necessary so that there will always be at least the minimum escape period available in the event of an emergency. If it is only a sub-circuit that fails, then it becomes impractical to evacuate hotel guests or people in places of entertainment.

Summary

Within the applications standard, new commissioning and testing requirements have been drawn up, demanding that that monthly operational testing and annual full discharge testing take place. This can either be undertaken by the building occupier or built into a service contract by the contractor at the time of installation.

At the end of the day, the contractor can only comply with all the new regulations if the products used are suitable for the function. ICEL now operates a straight forward Production Registration Scheme which provides assurance that the manufacturer operates a recognised scheme of quality assurance and photometric performance claims for the product are valid.

The opportunities for the contractor stem from the fact that sooner rather than later all places of work will be required to have certified emergency lighting that is maintained and serviced to an established regime. Those companies that make the effort to take on board the legislative changes and use fully approved products, will realise the opportunities that now abound and enhance their reputation.